

**A DISCURSIVE STUDY OF MODELS OF EMOTION IN TEACHING AND  
LEARNING SCIENCE**

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## **ABSTRACT**

The purpose of this study is to uncover the principles that inform a teacher's dialogic behaviour, and shape her feelings, and to understand the implications of these principles for multiple aspects of pedagogic practice. I investigate the principles that underpin an emotional practice for two teachers, Julia and Lydia, and their Year 10 science lower band learners. Towards this goal, I approach the theory and empirical data in this study in ways that create opportunities for researching teachers' emotions that other approaches do not: I examine patterns, commonality and relationships across conditions and over time to reveal within-person differences, and differences between persons, for Julia and Lydia's emotional practice. In addition, I outline discursive models of analysis that open up the space for investigating the role of teachers' emotions in ways that other conceptual and methodological frameworks do not: I expand models of analysis to different descriptive and classificatory systems to maintain the integrity of the object. I bring together multiple theoretical perspectives to build a multilevel theory that provides comprehensive insight into teachers' emotions. I also specify the nature of interactions between levels, for the multilevel theory, to enable cross-validation and cumulative evidence building. The research findings for this study coincide with and expand upon the findings for previous studies on teachers' emotions. Julia's emotions interact with her science teaching in powerful ways and realize an emotional practice of strong feelings, and 'grand' narratives. In contrast, Lydia's emotions interact with her science teaching in ways that promote solidarity and realize an emotional practice of graded feelings, and multiple narratives. I extend upon the language of description in this study to take into

account the teachers' meaning-making relevant to their appraisal processes and emotions. The potential for research into teachers' emotions is expanded in this study through the synthesis of different descriptive and classificatory systems, and categories. In addition, the research findings provide insight into the relative costs and benefits of different models of emotion for multiple levels of pedagogic practice.

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# Chapter 1 Introduction

## 1.1 Rationale

In this study I focus on the “emotional lives” (Harré & Gillett, 1994, p. 152) of two high school science teachers and their learners. I examine accounts and explanations of the teachers’ feelings, as well as stories about their feelings, taking into consideration their salient emotional experiences and day-to-day feelings. I focus upon the teachers’ relationships with their learners, staff members at the school, as well as members of the community external to the school. I also trace genealogies of the teachers’ emotions, examining whether and how they have changed. Studies into teachers’ feelings have the potential to expand our picture of the daily life of teachers, and their learners, on account of the tendency of educational research in the past to privilege teachers’ thinking and beliefs:

Rarely do educational histories examine, for example, the daily lives and practices of the female majority of schoolteachers, or the experience of students subjected to educational discipline. Examples of emotion’s present-absence, the daily dynamics of teachers’ and students’ lives, and the myriad ways in which emotions constitute interpersonal dynamics and learning processes, are largely absent from historical representations. (Boler, 1999, p. 19)<sup>1</sup>

In investigating the affective component of teaching, I examine the teachers’ thoughts and feelings about feelings, or “meta-emotion” philosophies (Gottman, Katz, & Hooven, 1997, p. 6): Are feelings linked to weakness and vulnerability in the teachers’ accounts and explanations of their feelings? Are they depicted as dangerous and irrational? And/ or are they deemed to be private, expressions to be controlled? (Lutz, 1986; Lutz & White,

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<sup>1</sup> There are subtle differences in connotation between ‘feeling’, ‘emotion’ and ‘affect’ (Lutz, 1986; see also Lazarus, 1991; O’Toole, 2005). Feeling tends to be associated with “internal body sensations” (Lutz, 1986, p. 305), emotion with “personal *evaluative* cognitions” (Op’t Eynde, De Corte, & Verschaffel, 2007, p. 188), and affect with the “subjective quality of an emotional experience” (Lazarus, 1991, p. 57). As I approach research into emotion in this study by bringing together different theories that frequently use these terms interchangeably (e.g., Martin and White, 2005) I adopt an inclusive approach rather than delineate precisely between these terms.

1986). I also examine the teachers' thoughts and feelings about specific feelings, such as 'fear': Does the teacher, as in the data extract below (1.1-I), negatively appraise the learners' feelings of 'fear' by mimicking them, and/ or try to minimize these feelings by distracting the learners? Or, does the teacher, as in the excerpt thereafter (1.1-II), attend to the learners' feelings, and assist them to find ways to best manage them?

*Data Extract 1.1-I:*

[LTa11-17]

a	11	T: [There is an earth tremor.]. [The teacher looks at the ceiling and behind her.]...
a	13	S1: What's that?
a	14	S2: I'm scared.
a	15	T: Don't be scared. It'll be a video, or something. It'll be fine. [The teacher enacts being panic stricken – she flaps her arms and shakes her head.].
a	16	S2: [The learner appears to defend her reaction.]. No, because everything was moving.
a	17	T: Was it? They must have the video on very loud. It's fine. Righto, girls. Grab your [work]sheets.

KEY T: Teacher S1: Student 1 S2: Student 2

*Data Extract 1.1-II:*

[LTxii76-79]

xii	76	S1: [The student stands on her desk to drop a parachute whilst her friend uses a stopwatch to measure the time it takes to reach the ground.]. I find it really scary up here.
xii	77	T: Well, why don't you swop with [name] then?
xii	78	S1: Yeah, [name] do you want to swop?
xii	79	S2 [The student's friend]: Okay.

The motive behind doing research into teachers' emotions in this study is to get at the principles that inform the teachers' behaviour and shape their feelings. I derive these principles by beginning with *a teacher's way of perceiving the world, her goals, her ways of coping* (Weigand, 2000), and work with the theories, methods and strategies adopted in this study in response to *this object* (Sarangi, 2003). In addition, I aim to examine the implications of these principles for different aspects of the teachers' pedagogic practice.

Research into feelings can provide a fuller view of these implications. In this study, I examine competence, as well as connection. I focus on balance, in addition to achievement. I also consider “shared worlds” of feelings, and “unshared worlds” of feelings (Hasan, 2004, p. 71).

[O]ne of the promises of the new interest in emotion is that it can reanimate the sometimes robotic image of humans which social science has purveyed...Incorporating emotion into ethnography will entail presenting a fuller view of *what is at stake* for people in everyday life...At issue is not only the humanity of our images, but the adequacy of our understanding of cultural and social forms. (Lutz & White, 1986, p. 431)

The fundamental question underpinning this study is: How do a teacher’s emotions influence teaching and learning science? I break this question down into more specific questions in 3.1 to consider various aspects, such as emotion regulation, pedagogic relations and stability and change. These questions prioritize the search for answers to key elements recognized to be of importance to furthering our understanding of emotions: “*how* emotions are defined and experienced within the classroom and the broader profession” (Meyer & Turner, 2007, p. 255), “how particular ways of organizing teaching shape teachers’ emotions” (van Veen & Lasky, 2005, p. 896), and the basis of “the developmental origin and maintenance of [different] emotion regulation strategies” (Gross & John, 2003, p. 360):

Researchers know surprisingly little about the role of emotions in learning to teach, how teachers’ emotional experiences relate to their teaching practices, and how the sociocultural context of teaching interacts with teachers’ emotions. Researchers know little about how teachers regulate their emotions, the relationship between teacher’s emotions and motivation, and how integral emotional experiences are in teacher development. (Sutton & Wheatley, 2003, p. 328)

Towards the goal of answering the research question I outline models of emotion in this study. In doing so, I address a recognized need to develop models of emotion: Pekrun and Schutz (2007) state “Theories, strategies, and measures for analyzing emotions in education are yet to be fully developed” (p. 314). I aim to develop models of emotion that

are “comprehensive” (Pekrun & Schutz, 2007, p. 314), “systematic” (van Veen, Slegers, & van de Ven, 2005, p. 918) and “[fine]-grained” (Coupland, Brown, Daniels, & Humphreys, 2008, p. 328). In addition, I aim to develop models that take into consideration the “complications” and “intricate relationships” of “real-life contexts” to motivational, affective, cognitive, and behavioural processes (Do & Schallert, 2004, p. 620), and give insight into “issues of social and practical relevance” (Sarangi, 2003, p. 169).

## 1.2 Outlining the Models

The models in this study can be described as discursive, multileveled and explicit. Firstly, in terms of the discursive nature of the models, I examine the pedagogic communication in this study to get at the “underlying rules” (Bernstein, 2000, p. 3) that shape “ways of feeling” (Martin & White, 2005, p. 42). In line with Bernstein (2000), I do not consider language to be a “neutral-carrier or relay of skills of various kinds” (p. 25), nor, in line with Abu-Lughod and Lutz (1990), a “transparent medium for the communication of inner thoughts or experiences” (p. 13). Instead, following Campos, Frankel, and Camras (2004), I consider language to be both a generative and regulatory process for emotion. In addition, I consider language to be a central means by which cultural values are inculcated into the learner (Campos, Frankel, & Camras, 2004; Lemke, 1995):

It turns out that the dominant contribution to the way that aspect [the emotional aspect] of our lives unfolds comes from the local social world, by way of its linguistic practices and the moral judgements in the course of which the emotional quality of encounters is defined. (Bedford, 1986, p. 5)

More specifically, in this study, I aim to find patterns, commonality and relationships for the pedagogic communication at an intra- and interindividual level across conditions and over time (Lemke, 1995). For example: In the excerpt below, a teacher describes an interested learner: The learner places her eyes on the teacher. She bounces up and down in her chair. She shares her feelings of excitement with her friend. In contrast, in the

excerpt that follows, another teacher provides an alternative description. The learner focuses on the teacher. She copies the notes from the whiteboard. She also captures her teachers' feelings on the page. In this study I begin by asking the following questions: Why is the learner in the first excerpt described as demonstrating a high degree of emotion-expressive behaviour? Why is the learner in the second excerpt described as documenting her teachers' feelings in addition to the experiential content of the lesson?

*Data Extract 1.2-I:*

I'm always drawn to [name], just because she's so outgoing, I think. But I guess, just smiley, sort of a bit bouncing in their chair, like just watching, looking like, looking at me, looking at what we're doing. A tendency to be side tracked and talking, but on task, sort of talking to their neighbour, and saying, 'Wow, you know, that's cool,' or something like that. [ITb87]

*Data Extract 1.2-II:*

[Name] would sit there absolutely focused on me...She annotates her notes with extra stuff I've said, not just what I'm putting on the board. If I write, say anything funny, she writes it down. Or, if I, you know, talk about happy faces, or something silly, she writes it all down because then she hears what I've said when she's studying...Yeah, she's really interested which is lovely. [ITii70]

Secondly, in terms of the multileveled nature of the models, I approach research into emotions in this study from an interdisciplinary approach by bringing together different theories. I introduce three of the principal theories that are brought together in 1.4. In order to synthesize multiple theories in this study it has been necessary to search for commonalities between different theories in the literature. For example: In 2.2.1 I indicate the manner in which aspects from the sociological theory of pedagogic relations (Bernstein, 2000) can be overlain with various constructs from the social-psychological theory of emotions as "multicomponential" processes (Mesquita & Albert, 2007, p. 489). It is noteworthy that this particular feature of the models of emotion is in alignment with the approach advocated by Pekrun and Schutz (2007) with regards to the steps that need to be taken to advance our theoretical thinking about emotions.

Thirdly, in terms of the explicit nature of the models, I specify the nature of interactions between levels for the multilevel theory. (I provide a summary of the interactions between levels in 2.5.). I consider explicit models of emotion, that provide detailed insight into various components of pedagogic practice, to be important to enable teachers to develop “conscientious” philosophies of emotions (Boler, 1999, p. 81), and to enable collective reflection and evaluation of the principles that inform pedagogic practice. In Bernstein’s (2000) terms, explicit models of emotion provide the “recognition” and “realization rule” (p. 17) enabling us to “better be able to choose the forms we create rather than have the forms to be created for us” (Bernstein, 2000, p. 210). I summarize the three central characteristics outlined in this section in the figure below, together with the call in the literature for these items to be placed on the theoretical agenda.

<i>Characteristic of models of emotion</i>	<i>Description</i>	<i>Recognized need</i>
Discursive	Examines the “underlying rules” (Bernstein, 2000, p. 3) of the pedagogic communication with regards to the emergence of emotions	Campos, Frankel, & Camras, 2004; Gross & John, 2003; Meyer & Turner, 2007; Pekrun & Schutz, 2007
Multilevel	Synthesizes multiple theoretical perspectives	Pekrun & Schutz, 2007; van Veen, Sleegers, & van de Ven, 2005; Zembylas, 2005a, 2007c
Explicit	Specifies the nature of interactions between levels for a ‘multilevel’ theory	Boler, 1999; Pekrun & Schutz, 2007; van Veen & Lasky, 2005; van Veen, Sleegers, & van de Ven, 2005

*Figure 1.2-I* Three central characteristics of the models of emotion

### 1.3 Situating the Models

The models of emotion in this study draw upon previous research into teachers’ emotions. Educational research into emotion has recent beginnings. One reason for this is the socio-historical backdrop for this study of the privileging of modes that treat ‘thinking’ and ‘feeling’ as separable aspects of human experience (Firth, 1953; Graham, 2002). This socio-historical backdrop is apparent for the different fields I draw upon in this study. In education emotion has been treated as an elusive construct, more difficult to



do research into than cognition, and emphasis has been given to teachers' thinking and beliefs (Boler, 1999; Zembylas, 2003). In linguistics experiential meaning has been privileged over other types of meaning (Christie, 2002; Martin, 2002), and an emphasis on rule-governed methodologies led to the exclusion of emotion (Beeman, 1988; Weigand, 2000). In psychology an emphasis on radical behaviourism resulted in a concerted effort to dismiss emotion as an unscientific concept (Lazarus, 1991). This dismissal took three forms (Hillman, 1960): the recommendation to mount arguments against feelings as 'things' that erroneously call for explanation, to subsume feelings under other concepts, and, as suggested by Meyer (1933), to abandon the concept altogether:

Why introduce into science an unneeded term, such as emotion, when there are already satisfactory scientific terms for everything we have to describe?...I predict: The 'will' has virtually passed out of our scientific psychology today; the 'emotion' is bound to do the same. In 1950 American psychologists will smile at both these terms as curiosities of the past. (Meyer, 1933, p. 300)

The treatment of 'thinking' and 'feeling', and the underlying pairs that come under 'thinking' and 'feeling' [Section 2.2.3], as separable aspects of human experience is also evident for the New Zealand Curriculum. Keown, Parker, and Tiakiwai (2005) state that education in New Zealand is "by and large bonded to key Western values about knowledge, learning-teaching, and the purpose of education" (p. 1): For the English curriculum, McFarlane (2004) argues that a disjunction exists between written and verbal language in which the most valued assessments in New Zealand are print-based. For the Arts curriculum, Boyask (2004) highlights that the emphasis given to rationality and measurability, in line with an enterprise culture, marginalizes creativity and imagination. For the mathematics curriculum, Neyland (2004) argues that the hierarchies and sequences of levels used to organize and teach mathematics limits an open-ended investigative approach. And most importantly for this study, for the science curriculum (Ministry of Education, 1993), Clark (2004) indicates that the constructivist approach that underpins the curriculum forges a dislocation between the individual and the social:

While it is a truism that, psychologically speaking, each learner is an individual, and what each individual learner learns is, in one sense particular to that individual, in a far more important sense learning is not an individual matter at all...Constructivism, by its emphasis on the individual making sense of this world, divorces the learner from a deeper examination of the social/ political/ economic contexts of science. (p. 167-172)

Another reason for the slow emergence of research on emotions in education is that it takes time for the uptake of findings from one field by another (Sutton & Wheatley, 2003): Cognitive science began to emerge in the late 1950s after radical behaviourism dominated the first half of the 20<sup>th</sup> century (Lazarus, 1999) – Research on teachers' cognitions began in the early 1970s (Calderhead, 1996). Psychological research on emotions began to flourish in the early 1980s (Lewis & Haviland, 1993) – Research on teachers' emotions began in the late 1990s (Nias, 1996; Golby, 1996; Hargreaves, 1998a, 1998b). Cumulative progress has also been hampered by different traditions of research in education, linguistics and psychology working in relative isolation despite often sharing basic assumptions (Pekrun & Schutz, 2007): Pekrun and Schutz (2007) indicate that the wheel has often been reinvented through the development of 'new' constructs, under the guise of different terms, whilst neglecting to cite those who have written previously about the construct. In addition, they highlight that there has been a proliferation of minitheories on account of a lack of theoretical integration. Calling for greater communication across channels Weigand (2000) states:

We have proceeded far enough to leave behind us questions like: Does this belong to linguistics? Isn't it rather an object for psychology? Do linguists have to worry about emotions? Language as a natural phenomenon is used by human beings in dialogic action games. In this sense, language is a kind of human behaviour, not an object of philology nor of natural science. (p. 16)

A number of research traditions played a role in bringing the study of teachers' emotions into the educational mainstream (Pekrun & Frese, 1992). Among these traditions are the field of test anxiety, attributional antecedents of achievement emotions, and stress and burnout. Research on test anxiety began in the 1930s (Brown, 1938) and has flourished since the 1950s (Hembree, 1988). It has been investigated in over 700 empirical studies enabling conclusions to be drawn with regards to key problems for task-related emotions,

such as its consequences for motivation, behaviour and achievement (Pekrun & Frese, 1992). Research on the attributional antecedents of achievement emotions began in the 1970s (Weiner, 1984). A number of research investigations within this research program led to identifying specific attribution-emotion linkages for success (e.g. success due to luck elicits surprise), as well as failure (e.g. failure due to lack of effort gives rise to guilt) (Weiner, 1984). Research on stress and burnout began in the 1970s examining emotional, behavioural and attitudinal exhaustion of teachers (Truch, 1980; Dworkin, 1987). Earlier research focused on the collapse of the professional mystique of teaching (Densmore, 1987), whilst later research considered the limitations of the structural characteristics of the organization (Vandenberghe & Huberman, 1999).

In addition, a number of seminal works assisted in bringing the study of teachers' emotions into the educational mainstream. The initial studies on teachers' emotions highlighted the affective component of teaching and learning, and include works that were written specifically with the aim of heightening the awareness of the emotional factors involved in education (Salzberger-Wittenberg, Henry, & Osborne, 1983). In addition, the initial studies on teachers' emotions placed emphasis on the importance of the quality of the teacher-learner relationship to the learning process (Osborn, 1996). These works describe the teacher-learner relationship as centering on a commitment to caring (Nias, 1989) and directed by a 'connecting' purpose (Lortie, 1975). They also describe the teacher-learner relationship as affective on account of the interaction of personalities (Waller, 1961) and the immediacy and spontaneity of teaching (Jackson, 1968). Following several calls (e.g., Pekrun & Frese, 1992) for emotions to be placed on the research agenda in education, research on teachers' emotions began to increase. The topic gained increasing importance with the publishing of the special edition of the *Cambridge Journal of Education* edited by Nias (1996), as well as a series of articles on the project *The Emotions of Teaching and Educational Change* (Hargreaves, 1998a, 1998b, 2000). I provide a summary of key works in *Figure 1.3-I* below from the 1930s leading up to the 1990s:

<i>Period</i>	<i>Focus</i>	<i>Studies</i>
1930s	Achievement-related anxiety	Brown, 1938; Hembree, 1988
	Teaching as involving human relationships and an interaction of personalities	Waller, 1961
1960s	Teaching as affective on account of the immediacy and spontaneity of classrooms	Jackson, 1968
1970s	Attributional antecedents of emotions	Weiner, 1984
	Teaching as directed by a moral and ‘connecting’ purpose	Lortie, 1975
	Stress and burnout	Dworkin, 1987; Truch, 1980
1980s	Teaching and learning as processes in which cognition and affect are intertwined	Salzberger-Wittenberg, Henry, & Osborne, 1983
	Teaching as involving an investment of ‘self’ and commitment to caring	Nias, 1989
1992	Call for further research on emotion in education	Pekrun & Frese, 1992
1996	Publishing of the special edition of the <i>Cambridge Journal of Education</i> edited by Nias (1996)	Nias, 1996

*Figure 1.3-I* Key studies concerning teachers' emotions and the teacher-learner relationship

There are several reviews of research into teachers' emotions that foreground different aspects and approaches adopted: Zembylas (2003) identifies three ‘waves’ of research that focus upon the interrelation between a teachers' emotions and cognitions (Salzberger-Wittenberg, Henry, & Osborne, 1983), the social construction of emotions (Armone-Jones, 1986; Harré, 1986; Ratner, 1991, 2000, 2007), and the politicization of a teachers' emotions (Boler, 1999). Sutton and Wheatley (2003) direct attention towards the prevalence of emotions in education and point out the importance given in the literature to feelings of ‘love’ and ‘care’ (Hargreaves, 1998a; Jackson, 1968; Nias, 1989), and ‘frustration’ and ‘anger’ in the day-to-day lives of teachers (Hargreaves, 2000; Jackson, 1968; Sutton, 2007). Van den Berg (2002) focuses upon the power and politics involved in teaching and describes the school as an “emotional regime” (Zembylas, 2005a, p. 474): an organization held together by feelings of belonging, power, fear (Kelchtermans, 1996; Schmidt & Datnow, 2005). Finally, Zembylas (2007c) outlines three theoretical approaches drawn upon by researchers of emotion in education: psychodynamic (Lazarus, 1991), social constructionist (Harré, 1986) and interactionist

(Nias, 1989). I provide a brief overview of the findings of research into teachers' emotions post 1990 below. I do so by organizing these findings under five conceptions of teachers' emotions I identify from my reading of the literature. These are: teaching is affective, and involves shared emotionality, the regulation of emotions, an investment of 'self', and feelings of power and powerlessness.

***Teaching is affective.*** Teaching involves strong feelings and is directed towards values and ideals (Nias, 1996). A teacher develops deeply emotional relationships at school and participates in intensive interpersonal interactions that involve the direction of learners into culturally approved channels (Nias, 1996). A teacher interacts with learners face-to-face, as well as body-to-body, and seduces learners into a loving relationship with knowledge (McWilliam, 1996). Teaching involves a commitment to caring and promotes qualities of "honesty", "openness", "vulnerability" and "a certain kind of innocence" (Golby, 1996, p. 2).

***Teaching involves shared emotionality.*** Teaching, and administrative roles, involve the maintenance of a positive image with parents and governors and the experience of self-esteem through "publicly attestable success" (Hayes, 1996, p. 1). Teaching encompasses developing "emotional understanding", i.e. "shared and shareable emotionality" (Denzin, 1984, p. 137), by fostering close and long-standing relationships with learners (Hargreaves, 1998a, 1998b, 2000). It can also involve forming affective connections, through alignment, as a means of subverting negative emotional climates in the aftermath of tragic events (Zembylas, 2007a).

***Teaching involves the regulation of feelings.*** Teachers regulate feelings because they consider themselves to be role models for their learners (Sutton, 2004, p. 386). In addition, they perform "emotion work" (Hochschild, 1979, p. 551) because of their perception of the incompatibility of feelings of anger with the professional role of the teacher (Liljestrom, Roulston, & deMarrais, 2007). Teaching can involve experiences of silence and isolation, coupled with feelings of shame, on account of the expectation that

teachers should manage ‘outlaw’ emotions in accordance with predetermined roles at a school (Zembylas, 2007a).

***Teaching involves an investment of self.*** Teachers’ sense of identity is shaped by the social and political context, as well as their early professional training (Lasky, 2005). Teachers report experiencing constraints in establishing learning environments of trust during reforms that place emphasis on classroom instruction and accountability (Lasky, 2005). Teachers also experience heightened emotionality, on account of deeply held beliefs, and engage in micropolitical actions of resistance to safeguard these beliefs during reforms (Kelchtermans, 2005). Teachers experience reforms differently depending on their career stage: young teachers are reported to be enthusiastic whereas older teachers are shown to be resistant (Hargreaves, 2005).

***Teaching involves feelings of power and powerlessness.*** Teachers experience intense feelings that vary according to whether they feel powerful or powerless during reform, and attribute these feelings to change that takes place at a classroom level, rather than whole school level (Schmidt & Datnow, 2005). Teachers resist educational change on account of fears at expected changes in “*inscribed habits of (in)attention*” that would result in felt losses concerning personal and cultural identity, as well as literal losses (Boler, 1999, p. 180). They have the potential to resist those rules that are imposed by analyzing and challenging them through the process of uncovering their historicity and contingency (Zembylas, 2007a).

I draw upon these five conceptions in outlining a multilevel model of emotion in this study. To summarize, these findings indicate: Teachers foster deeply emotional relationships with their learners based upon shared emotionality, and experience strong feelings on account of deeply held beliefs. Teachers regulate their feelings in accordance with an “idealized emotion teacher image” (Sutton, 2004, p. 386), and experience feelings of self-esteem when they act consistently with their beliefs and values (Nias, 1996). Teachers experience feelings of power and powerlessness and engage in micropolitical actions of resistance to safeguard their beliefs. In addition to drawing upon

these five conceptions, I extend and refine the language of description for the model of analysis to distinguish between two types of models of emotion [Section 2.1-2.5]. I do so in response to the object [Section 1.1 and 3.2.2] opening up the model to the voices of teachers not accounted for in the review of the five conceptions of teachers' emotions. In the expansion of the model of analysis, I consider strong feelings, as well as different intensities of feelings. I recognize shared emotionality, as well as "unshared worlds" of feelings (Hasan, 2004, p. 71), and varying degrees of shared emotionality. I outline different types of emotion regulation strategies and specify those strategies favoured by different models of emotion. I indicate different types of subjectivity, and examine feelings of power and powerlessness, as well as varying degrees of feelings of power. I discuss the expansion of the models with reference to specific theories in the following section.

## **1.4 Building and Expanding the Models**

A number of research orientations for examining emotion in linguistics exist. These approaches include cognitive studies that focus upon the conceptualization of emotions through emotion schemas (Lutz, 1987; White, 1990), linguistic anthropological studies that examine the realization of affect across languages and cultures (Brenneis, 1990; Irvine, 1990), and child development studies that look at the affect features of early child language (Painter, 2003) and baby talk (Ferguson, 1964). They also include functional studies that address the emotive function of language and the linguistic resources for realizing affect (Jakobson, 1960; Stankiewicz, 1972), intensity/ involvement studies that explore the increased or decreased investment of the speaker in a value position (Labov, 1984; Martin & White, 2005), and conversation analytic studies that examine the affect features of talk in interaction (Eggins & Slade, 1997; Martin, 2000b).

In this study I draw upon a number of these approaches to develop discursive models of emotion [Section 1.2]. In this section I introduce three of the principal theories I adopt. I begin by providing a brief account of the development of these theories. I then explain

the manner in which this study expands upon these theories in response to the object of analysis [Section 1.1], and in so doing works towards a recognized need for the synthesis of different descriptive and classificatory systems (Hasan, 2004; Sarangi, 2003; Weigand, 2000). The theories I discuss are: a theory of evaluation in language – appraisal theory (Martin & White, 2005), a theory of pedagogic relations (Bernstein, 2000) and a tri-stratal model of teachers’ emotions (Zembylas, 2002). These theories are social theories of discourse that connect language to social relations and processes, and consider language to play a crucial role in building community (Lemke, 1995).

***Appraisal theory.*** Appraisal theory has been developed within the tradition of systemic functional linguistics (Halliday, 1994; Martin, 1992) [Section 2.1]. It is a comprehensive framework for examining evaluation in discourse (Martin & White, 2005; Martin & Rose, 2003) [Section 2.2.2] that is concerned not only with the linguistic expression of affect, but the social function of interpersonal resources in building communities of shared feelings and values as well (Martin, 2003). The origin of appraisal theory can be traced back to a research project conducted in the early 1990s for the New South Wales Department of Education’s *Disadvantaged Schools Program* in Australia (Martin, 1997). The research project was the second phase of a literacy initiative informed by systemic functional linguistics, and followed on from an earlier study conducted in the late 1980s, the *Language and Social Power Project* (Martin, 1997). The project was referred to as *Write it Right* (WIR) (Coffin, 2002).

The project investigated the written discourse of key learning areas in high school (Coffin, 2002), for example: English (Christie & Macken-Horarik, 2007), mathematics (O’Halloran, 2007), geography (Wignell, Martin, & Eggins, 1993), history (Coffin, 2002) and science (Veel, 1997). In addition, it examined the written discourse of the workplace (Coffin, 2002), such as the science industry (Rose, 1997) and media industry (White, 2003). Research that draws upon appraisal theory has since broadened over the years to encompass a large body of research that covers an array of topics from online discussions of literary texts (Love, 2006) to the discourse of participants in talk shows (Simon-Vandenberg, 2004). In line with the name of the project, *Write it Right*, the project



aimed to equip the learners with the right ‘voice’ (Coffin, 2002). It is evident that the design of appraisal theory is in line with this goal from its mapping of feelings as systems of oppositions [Section 2.2.2]:

...it emerged that in the school subject areas of history and English, assessment practices frequently turned on the ability of students to...infuse their own texts with the appropriate interpersonal colouring, to adopt, as it were, the right ‘voice’...The APPRAISAL framework was designed, therefore, to ‘map’ an area of interpersonal meaning that was of educational significance...(Coffin, 2002, p. 507)

***A theory of pedagogic relations.*** Bernstein’s (2000) theory of pedagogic relations is a sociological theory that places emphasis on cultural production and reproduction of social relationships (Lemke, 1995). Bernstein, a sociologist working in the field of education, collaborated with Halliday and Hasan, working in the field of linguistics, in the 1960s and 1970s to examine the differences in the language-using habits of different ages, genders, social classes, etc. (Christie, 2007; Lemke, 1995). In a study of the talk between mothers and their children Hasan (1989) provided systematic evidence for semantic variation according to the social class of the family. Bernstein drew upon these findings to support his argument of making the language valued by the school and society of the upper-middle classes explicit so that socially disadvantaged learners could recognize and realize the ideal text (Christie, 1999b; Lemke, 1995).

***A tri-stratal theory of emotions.*** Zembylas’ (2002) tri-stratal theory of emotions outlines teachers’ emotions as individual, social and political phenomena. Zembylas draws upon Foucault’s (1972) notion of “discursive formations” (p. 38) that foregrounds relations to argue that a teachers’ emotions describe relationships between events, objects and persons. In addition, he draws upon Foucault’s (1972) notion of discursive change, in which a change in the order of discourse presupposes transformations in social practice, to ascribe importance to examining discourses on emotion over time to determine whether and how they have changed. Zembylas (2007a) provides the assumptions that underpin his conceptualization of emotion as follows: (1) Emotions are generated via language; (2) Power relations permit us to feel certain emotions and prohibit us to feel

others; (3) Emotions involve affective connections; and (4) Using emotions can create counter-hegemonic affective connections.

I understand the three theories outlined above, namely: appraisal theory, the theory of pedagogic relations and the tri-stratal theory of emotions, to share certain common assumptions. In brief, the theories bring typological analysis to the fore, i.e. they recognize appropriate or inappropriate feelings, and the right or wrong ‘voice’. They place emphasis on shared and shareable emotionality involving an alignment with communities. They also ascribe importance to power (Bernstein, 2000; Zembylas, 2002), or power alongside solidarity (Martin & White, 2005). I draw upon these assumptions to outline a multilevel model of emotion. In addition, I draw upon these assumptions to outline social semiotic principles for the classification of lexis by using the theory to interrogate the data and vice versa [Section 3.6.1]. Martin and White (2005), and Bednarek (2008), identify a need for the development of social semiotic principles for the classification of lexis:

[O]ur maps of feeling...have to be treated at this stage as hypotheses about the organization of the relevant meanings – offered as a challenge to those concerned with developing appropriate reasoning, as a reference point for those with alternative classifications and as a tool for those who need something to manage the analysis of evaluation in discourse. (Martin & White, 2005, p. 46)

In addition to drawing upon the assumptions that underpin these models, I extend and refine the language of description to open up the models. I do so in response to the object [Section 1.1 and 3.2.2] by building upon the steps already taken by others [Section 3.2.2]. In the expansion of the models, I recognize topological analysis, i.e. appropriate feelings to varying degrees. I place emphasis on varying degrees of shared feelings. I also bring solidarity to the fore. The expansion of the models addresses calls in the literature to open up models of analysis: Sarangi (2003) identifies a need for the synthesis of different descriptive and classificatory systems concerning the evaluative function of language. Keown, Parker, and Tiakiwai (2005) call for the issue of recognizing different value orientations in the New Zealand Curriculum to be problematized, stating “How to create space within a curriculum for the values of traditions beyond the Western mainstream is a

significant issue” (p. 160). Lastly, Hasan (2004) acknowledges the timely importance of expanding models to include alternative voices and unshared worlds of feelings:

Official educational systems insist on retaining a ‘univocal’ discourse in the classroom, because either it is assumed that the dominating voice is the only voice that actually exists in the classroom or perhaps that it *should* be the only voice: that the alternative voices deserve to be suppressed. In any event, to my knowledge at least, no dialogue between the voices has ever been entertained. But, as I have suggested elsewhere (see Hasan 1996b), this is the single most severe problem in official pedagogic systems. (Hasan, 2004, p. 70)

And:

Linguists have written volumes on shared discourses axioms, conversational implicatures, and shared worlds. It is time to ask: how can we talk across unshared worlds, across discursive axioms that are not in agreement, and conversational implicatures that have distinctly different points of departure? How can a teacher capitalize on the presence of multiple voices in the classroom without creating in any of her speakers either a sense of superiority or a sense of being devalued? (Hasan, 2004, p. 71)

## 1.5 Summary

In chapter 1 I began by providing the rationale for this study. In brief, I examine the emotional lives of two high school science teachers in this study with the aim of getting at the principles that inform their behaviour, and shape their feelings, by working with the theories, methods and strategies adopted in response to the object. In addition, I aim to examine the implications of these principles for different aspects of the teachers’ practice: competence and connection, achievement and balance. The fundamental question underpinning this study is: How do a teacher’s emotions influence teaching and learning science? Towards the goal of answering this question I outline models of emotion addressing a need to develop models for analyzing emotions.

I introduced three features of the models of emotion, namely: the discursive, multileveled and explicit nature of the models. In terms of the discursive nature, I examine the

pedagogic communication in this study to get at the ‘underlying rules’ that shape ways of feeling. I consider language to be both a generative and regulatory process for emotions and a central means by which values are inculcated into the learner. In terms of the multileveled nature, I approach research into emotions in this study by bringing together different theories. Lastly, in terms of the explicit nature, I specify the nature of the interactions between the levels of the multilevel theory. I consider explicit models to be important to enable collective reflection and evaluation of the principles that inform pedagogic practice.

I situated the models of emotion in relation to previous research into teachers’ emotions. In sum, educational research into emotion has recent beginnings. One of the most significant reasons for this is the socio-historical backdrop for this study of the privileging of modes that treat ‘thinking’ and ‘feeling’ as separable aspects of human experience. Several research traditions played a role in bringing the study of teachers’ emotions into the mainstream: research on test anxiety, attributional antecedents of achievement emotions, and stress and burnout. In addition, a number of key studies played a role by heightening awareness of the affective component of teaching (e.g., Salzberger-Wittenberg, Henry, & Osborne, 1983), and the centrality of the teacher-learner relationship (e.g., Lortie, 1975).

I also mapped out findings of research into teachers’ emotions post 1990 under five conceptions of teachers’ emotions. The findings indicate: Teachers experience strong feelings on account of deeply held beliefs, and foster affective connections with their learners based upon shared emotionality. Teachers regulate their feelings because they consider themselves to be role models and experience self-esteem when they act consistently with their beliefs. Teachers experience feelings of power or powerlessness. I draw upon these five conceptions in outlining a multilevel model. In addition, I extend and refine the language of description to distinguish two types of models of emotion in this study. I do so in response to the object.

Lastly, I introduced three of the principal theories I draw upon in this study: a theory of evaluation in language – “appraisal theory” (Martin & White, 2005, p. xi), Bernstein’s (2000) theory of pedagogic relations, and Zembylas’ (2002) tri-stratal theory of emotions. Key motives that have informed the development of these frameworks have been to equip learners with the right ‘voice’ with regards to achievement at school (Coffin, 2002), to make the text valued by school and society explicit to enable learners to recognize and realize the ideal text (Bernstein, 2002), and to reveal the historicity of normative rules that induce suffering as a means of subverting these rules (Zembylas, 2007a). I understand these theories to share certain common assumptions. In sum, the theories place emphasis on typological analysis. They ascribe importance to communities of shared feelings and values. They also foreground power, or power alongside solidarity. In this study, I draw upon these assumptions to outline a discursive model of analysis, or seen differently, social semiotic principles for the classification of lexis. In addition, I open up these models to include different descriptive and classificatory systems. I do so in response to the object by building upon the steps already taken by others. The expansion of the models in this regard addresses a call in the literature to problematize the question: “[H]ow can we talk across unshared worlds?” (Hasan, 2004, p. 71).

## 1.6 Overview of Chapters in Thesis

In the following chapter, chapter 2, I map out the multilevel theory for two types of models of emotion. I discuss the theories introduced in 1.4, as well as additional constructs drawn upon in this study, in detail. In the process of doing so, I extend upon and refine the language of description in order to clearly distinguish between the two types of models of emotion. In 2.5, I provide a summary of the multilevel theory. The theory lays out the different levels, and illustrates the nature of the interactions between the levels of the framework.

In chapter 3, I outline the theories, methods and strategies adopted, and indicate the manner in which this study makes a distinction between the object and methodology in

order to maintain the integrity of the object. I restate the research rationale together with the research question, and break the research question down into more specific questions. I also specify the steps taken in addressing issues concerning ethics, and the rationale behind the selection of two teachers. Lastly, I outline the multiple methods adopted in this study, and unpack the approach taken in the analysis of the data in detail.

In chapter 4, I report on the building of the two types of models of emotion with regards to two teachers. I examine the nature of the interactions between levels, for the multilevel theory, at an intra- and interindividual level. In doing so, I look at the relation between the intensity of feelings that characterize the pedagogic practice, and the nature of the relationship between the teacher and her learners, for example. I report on the implications of the two descriptive and classificatory systems with respect to four categories that emerged as significant in the data interpretation and analysis.

In chapter 5, I outline the contributions of this study towards an understanding of the role of teachers' emotions in teaching and learning science. I look at the manner in which the research approach, as well as the features of the models developed, provide insights that other approaches and models do not. I examine the relation between the findings of this study, and previous findings, and outline the manner in which the language of description has been extended to analyze and reveal the role of teachers' emotions. Lastly, I discuss future directions for research on teachers' emotions and highlight the strengths and limitations of the theories, methods and strategies adopted.

# Chapter 2 Theoretical Framework

## Overview of the Theoretical Framework

In chapter 2, I map out a multilevel theory for two types of models of emotion by foregrounding emotion as discursive practice. In addition to the three theories introduced in 1.4, I discuss further constructs drawn upon in this study as well, and provide a detailed exegesis of the different theories. I begin in 2.1 by identifying a principle that underpins the emotional practice and outlining three characteristics of this principle, namely: evaluation, relations and subjectivity. I then distinguish two types of principles in order to expand the theory to include different descriptive and classificatory systems, and consider the implications of these two principles for the three characteristics in 2.2-2.4. In the process of doing so, I extend and refine the language of description of the theories drawn upon. I provide a summary of the expanded theory in 2.5 and a glossary of key constructs in Appendix A.

## 2.1 The Emotional Practice as Discursive

### Introduction

In this study I examine the “emotional practice” (Hargreaves, 1998a, p. 838) from a discursive perspective [Section 1.2]. In this section I draw upon systemic functional linguistics (SFL), as a discursive model, to further unpack and explain those components that define the emotional practice as discursive in this study (Bloor & Bloor, 2004; Eggins, 1994; Halliday, 1994). SFL is a multi-perspectival framework that provides complementary lenses for interpreting language in use (Martin & White, 2005). Three of these complementarities, that are discussed in 2.1.1-2.1.3, include:

- Language as a meaning-making resource;
- Language as sets of choices of meaning, or systems; and
- Language in context (Christie & Unsworth, 2000).

As outlined in 1.4, SFL includes a model of evaluation, referred to as “appraisal theory” (Martin & White, 2005). In this model there are systems that encompass the semantic regions of emotion, ethics and aesthetics (Martin & White, 2005). Appraisal theory is therefore suited for analyzing a teacher’s *emotion talk* (or linguistic expressions denoting emotions) (Bednarek, 2008, p. 11). It is also useful for analyzing certain aspects of a teacher’s *emotional talk* (or linguistic expressions that conventionally signal emotion) (Bednarek, 2008, p. 11). Examples of *emotion talk* from the data generated for this study include:

- ‘I’m a little bit nervous’ [LTa1];
- ‘I love you to bits’ [LTp10]; and
- ‘Isn’t that a nice experiment? I like this one’ [LTc222].

Examples of *emotional talk* include:

- ‘It [the class] is like a bloody nightmare’ [LTx16];
- ‘You’re wonderful’ [LTiii185]; and
- ‘That [your graph] looks really, really good. Nice even scale’ [LTi347].

I analyze and interpret a teacher’s emotion and emotional talk to investigate the regulatory principle underlying an emotional practice. This principle is referred to variously in the literature: It is spoken of as a “feeling rule” (Hochschild, 1979, p. 551), or “*emotional rule*” (Zembylas, 2002, p. 93; see also Zembylas, 2003, 2004a, 2004b, 2004d, 2005b). It is also referred to as the “pedagogic discourse” (Bernstein, 2000, p. 32). I adopt the term ‘emotional principle’ drawing upon Bernstein’s (2000) reference to the pedagogic discourse as a principle. As a regulatory principle it influences which emotions individuals have, when they have them, and how they express them (Gross, 1998).



I draw attention in this study, in particular, to three characteristics of this emotional principle, namely that the regulatory principle concerns: (1) Evaluation; (2) Relations; and (3) Subjectivity. It is worthy of note that these three characteristics emerge as central tenets in several frameworks to be found in the literature to do with research into emotion, and evaluation. In the first instance, it is evident that the three elements of the principle can more or less be overlaid with Lazarus' (1991) "*cognitive-motivational-relational*" (p. 13) theory of emotion:

- Emotions concern *appraisals*: The emotion process begins with a person making a judgement of the situation.
- Emotions concern *relations*: The person and environment are both important factors in emotion and adaptation.
- Emotions concern *goals*: Emotions arise from an appraisal of the fate of "*goal commitment[s]*" (Lazarus, 1999, p. 76) one strives to attain.

It is also apparent that the three elements can more or less be overlaid with the inherent features of evaluation identified by Thompson and Hunston (2000):

- Evaluation is *value-laden*: The "good-bad parameter" (p. 25) is considered to be the most basic dimension for evaluation (the one to which other phenomena can be seen to relate). "[W]hat is good" is glossed as "what achieves our goals" and "what is bad" is glossed as "what impedes the achievement of our goals" (p. 21).
- Evaluation is *comparative*: The evaluation of an object takes place in relation to a yardstick of some kind.
- Evaluation is *subjective*, and is involved in the building of subjectivity.

Of these three characteristics, I consider the characteristic of evaluation to be the central aspect that affords an understanding of the nature of the emotional practice: Bernstein (2000) argues that "continuous evaluation" is "the key" to the pedagogic practice (p. 36). Schutz, Cross, Hong, and Osbon (2007) see the judgements or appraisals teachers make as central to the nature of the pedagogic transaction. In addition, the importance of evaluation is evident from the number of studies or models that foreground the "evaluative characteristic of emotion in teaching" (Zembylas, 2004d, p. 191; see also

DeCuir-Gunby & Williams, 2007; Hargreaves, 1998a; Pekrun, Frenzel, Goetz, & Perry, 2007; Schmidt & Datnow, 2005; Schutz & DeCuir, 2002; Zembylas, 2002).

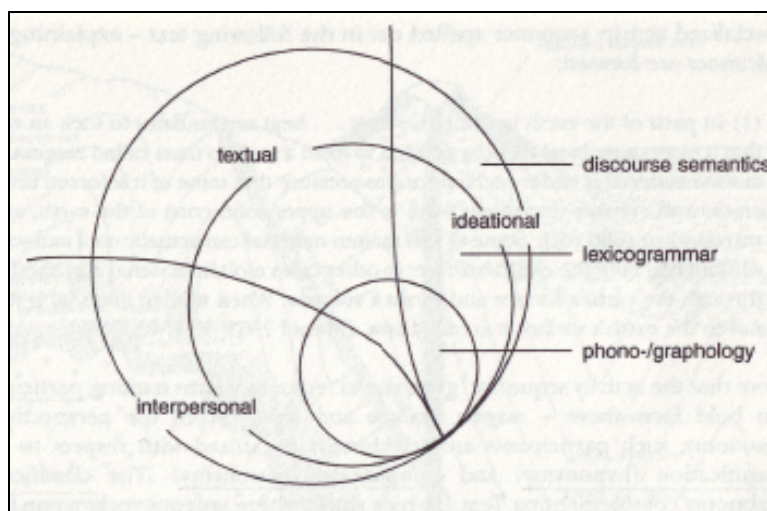
In the following section, 2.1.1-2.1.3, I unpack the three characteristics of the emotional principle introduced, namely: the value-laden characteristic, the relational characteristic and the notion of the subject under several complementary lenses of SFL, before I consider each of these aspects on their own in 2.2-2.4. These dimensions are (1) The functional nature of language, and realization; (2) The systemic nature of language; and (3) The contextualized nature of language. In the process of doing so, I identify two types of evaluation, relations and subjectivity.

### **2.1.1 The Functional Nature of Language and Realization: The Value-Laden Characteristic**

SFL is concerned with how language is used (functional) to realize meaning (semantic). The functions for which language has evolved include: the representation of experience, the enactment of relationships, and the organization of language to bring about a satisfactory message. The three functions operate simultaneously, and are interwoven with each other, in the creation of meaning. They are known as the three metafunctions: the ideational, interpersonal and textual (Christie, 2002; Halliday, 1994; Martin & Rose, 2003; Martin & White, 2005).

SFL describes language as a stratified semiotic system. The first level of abstraction concerns sounds (phonology), and letters (graphology), for which the unit of analysis is the phoneme or grapheme. At the next level of abstraction we find vocabulary (lexis), and grammar, which are considered to be inextricably linked in constituting a lexicogrammar. At this stratum, the unit of analysis is the clause. The highest level of abstraction is the level of meanings (discourse semantics) for which the unit of analysis is an authentic product of social interaction, or text (Eggins, 1994).

The three meaning-making principles for language, or metafunctions, namely the ideational, interpersonal, and textual, can be represented as shown in *Figure 2.1.1-I* below (Martin, 2007, p. 35). In terms of the tri-stratal characterization of language or realization, *Figure 2.1.1-I* can be read as meanings (discourse semantics) are realized by words (lexicogrammar), which in turn are realized by sounds (phonology), or letters (graphology) (Eggins, 1994; Martin & White, 2005):



*Figure 2.1.1-I* Metafunctions and strata in SFL (Martin, 2007, p. 35)

In this study, I am mainly concerned with how people are interacting (interpersonal meaning) and with “meaning beyond the clause” (texts) (Martin & White, 2005, p. 9). Martin and White (2005) situate “appraisal” (p. 10) at the level of meaning within the semiotic system. The placement of appraisal within the discourse semantic stratum is evident on examination of the prosodic nature of interpersonal meaning. For example, for the data extract below (*Figure 2.1.1-II*), a type of prosodic realization, known as “intensification” (Martin & White, 2005, p. 20), is evident. There is a turning up of the “volume” of the emotional talk so that the resulting prosody “makes a bigger splash which reverberates through the surrounding discourse” (Martin & White, 2005, p. 20):

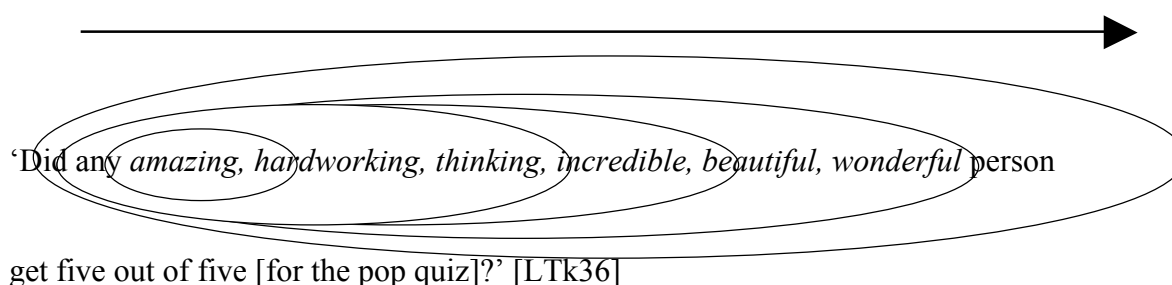


Figure 2.1.1-II The prosodic realization of interpersonal meaning involving amplification (Adapted from Martin & White, 2005, p. 24)

The view that language operates at a descriptive and evaluative level is a long-standing one (Sarangi, 2003). These functions have been categorized variously, and the inter-relationship between them debated (Sarangi, 2003). The inter-relationship between the “*informational*” and “*affective*” (Sarangi, 2003, p. 166) is captured by Lazarus (1991) under the notion of “cold” and “hot” (p. 144) knowledge. Knowledge without personal significance is considered to be cold, or nonemotional (Lazarus, 1991). Knowledge that involves an evaluation of the importance of what is taking place for one’s personal well-being is regarded as hot, or emotional (Lazarus, 1991).

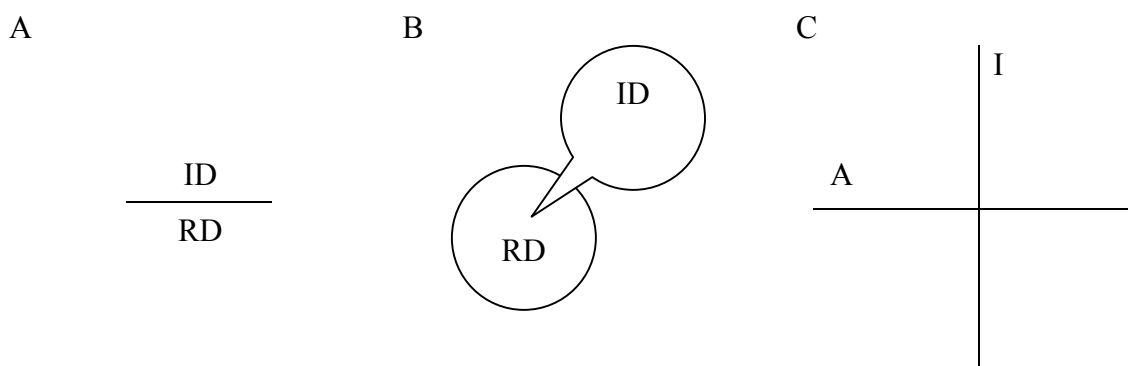
The inter-relationship between the ‘informational’ and ‘affective’ is also captured by Bernstein (2000) under the notion of the “*instructional*” and “*regulative*” (p. 32) discourse. The instructional discourse realizes the content or experiential information of a lesson (Bernstein, 2000; Christie, 1997, 2002). The regulative discourse is the moral discourse that creates order [Section 2.1.1], relations [Section 2.1.2], and identity [Section 2.1.3] (Bernstein, 2000; Christie, 1997, 2002).

Using physics as an example, Bernstein (2000) argues that although there is an internal logic to physics, the rules of its transmission for the pedagogic practice are social facts. The principles of selection involved in the formation of the rules of order for physics are activated by the regulative discourse (Bernstein, 2000). The regulative discourse is the dominant discourse (Bernstein, 2000). It embeds the instructional discourse to constitute one discourse, and is represented using the formula INSTRUCTIONAL DISCOURSE/

REGULATIVE DISCOURSE or ID/RD, as shown in *Figure 2.1.1-III A* below (Bernstein, 2000).

An alternative representation of the relation between the instructional and regulative discourse is offered by Martin and Rose (2005). To indicate the manner in which the regulative discourse brings the instructional discourse into being they draw upon Halliday's (1994) notion of "projection" (p. 216). Much like a locution is projected through the voice of its speaker, so the regulative discourse is said to project the instructional discourse (*Figure 2.1.1-IIIB*).

In this study I depict the relation between the 'informational' (I) and 'affective' (A) as two axes that can be overlaid. As the two strands of a double helix can be seen to be inextricably intertwined, so too can the 'informational' and 'affective' be seen to come together in the formation of the emotional practice (Sarangi, 2003). I expand upon this representation (*Figure 2.1.1-IIIC*) in the chapters that follow, and present it as a useful tool for considering the three characteristics of the emotional principle. (A similar representation is provided by Maton (2007) for the pedagogic practice: He uses the y-axis to indicate the epistemic relation, and the x-axis to show the social relation).



*Figure 2.1.1-III* Schematic representations of the 'informational' and 'affective' (Bernstein, 2000, p. 32; Martin & Rose, 2005, p. 271)

The inter-relationship between the informational and affective reveals the value-laden, or selective, characteristic of the principle underlying the emotional practice. The degree of selection for “the selection of the communication” (Bernstein, 2000, p. 12) can be high or low revealing an appraisal that is either positive *or* negative. In addition, the degree of selection for “the selection of the communication” (Bernstein, 2000, p. 12) can be high-low (i.e. operate on a cline from a high to low degree of selection) revealing an appraisal that is both positive *and* negative. I expand upon the value-laden, or selective, characteristic further in 2.2.

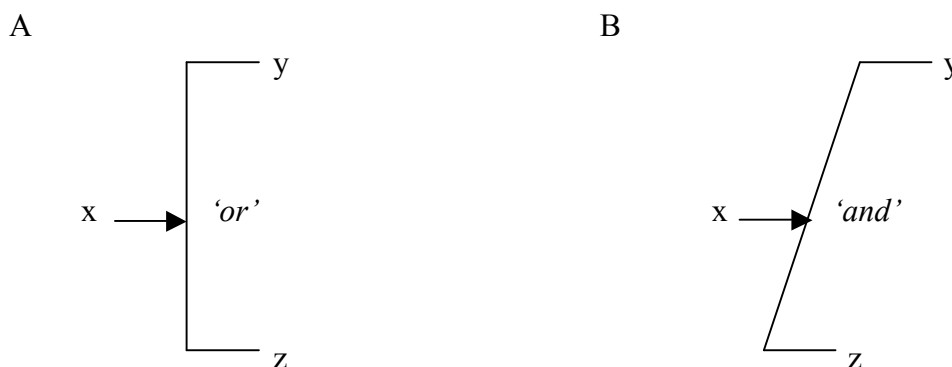
### 2.1.2 The Systemic Nature of Language: The Relational Characteristic

SFL describes language as sets of choices of meaning (Christie, 2002; Eggins, 1994; Martin & White, 2005). A set of options is called a system, from which the name ‘systemic’ linguistics is derived (Christie & Unsworth, 2000). The sets of choices of meaning reveals the relational characteristic of the emotional principle. The emotional principle that underpins the emotional practice, and regulates “ways of feeling” (Martin & White, 2005, p. 42), brings the sets of choices of meaning into a “special relationship” (Bernstein, 2000, p. 32) with each other.

The relationship between the sets of choices might be nonreciprocal. A nonreciprocal relationship is suggested by the systems diagram in *Figure 2.1.2-1A* which places an emphasis on categorical or typological analysis (Martin & White, 2005). Set ‘y’ is brought into a nonreciprocal relationship with set ‘z’. The square brackets with an arrow leading into it can be read as ‘*or*’ (Martin & White, 2005). The network says that ‘x’ can be either ‘y’ or ‘z’. An item is classified as one kind of thing or another (not both, and not something in between) (Martin & White, 2005).

The relationship between the sets of choices might also be reciprocal. A reciprocal relationship is suggested by the systems diagram in *Figure 2.1.2-1B* which places an emphasis on graded or topological analysis (Martin & White, 2005). Set ‘y’ is brought

into a reciprocal relationship with set ‘z’. I interpret the slanted brackets with an arrow leading into it to be read as ‘and’. The network says that ‘x’ can be ‘y’ and ‘z’. An item is not neatly classified as one kind of thing or another (it can be both, or something in between). (I draw upon the suggestion offered by Hood, as cited in Martin and White (2005, p. 16), to present scalar systems as shown in *Figure 2.1.2-IB*).



*Figure 2.1.2-I* A typological and topological representation for a system network  
(Adapted from Martin & White, 2005, p. 14-16)

In addition to sets of choices of meaning revealing the relational characteristic of the emotional principle, the dialogic nature of language as put forward by Bakhtin (1981)/ Vološinov (1973) reveals the relational characteristic of the emotional principle as well. For Bakhtin/ Vološinov all communication is dialogic because to speak or write is to engage with prior speakers. In engaging with prior speakers the emotional principle is brought to the fore, and discourses are brought into a “special relationship” (Bernstein, 2000, p. 32) with each other. Vološinov (1973) states:

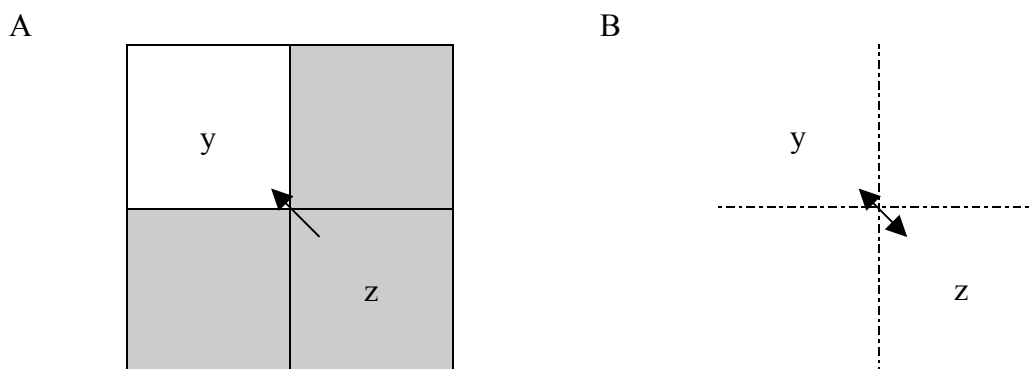
*The actual reality of language-speech is not the abstract system of linguistic forms, not the isolated monologic utterance, and not the psychological act of its implementation, but the social event of verbal interaction implemented in an utterance or utterances. (p. 94)*

The relationship in which discourses are brought together might be nonreciprocal. A teacher might agree (align) or disagree (disalign) with speakers (and their value

positions). I represent a nonreciprocal relationship, or relationship of alignment or disalignment, as shown in *Figure 2.1.2-IIA* below. *Figure 2.1.2-IIA* can be read as teacher ‘x’ aligns to speakers ‘y’, and their value positions. I adopt the terms ‘alignment’/ ‘disalignment’ from Martin and White (2005), and draw inspiration from their interpretation of Bakhtin/ Vološinov, to examine the manner the teacher engages with prior speakers. Martin and White (2005) state:

By ‘alignment/ disalignment’, we refer to agreement/ disagreement with respect to both attitudinal assessments and to beliefs or assumptions about the nature of the world, its past history, and the way it ought to be. (p. 95)

The relationship in which discourses are brought together might also be reciprocal. A teacher might negotiate a relationship of alignment-disalignment (agreement-disagreement) with speakers (and their value positions). In other words, a teacher’s alignment might operate on a cline from high to low. I represent a reciprocal relationship, or relationship of alignment-disalignment, as shown in *Figure 2.1.2-IIB* below. *Figure 2.1.2-IIB* can be read as teacher ‘x’ aligns-disaligns to speakers ‘y’ or ‘z’ and their value positions. The linguistic resources that close down the space for dialogic alternatives, and open up the space, are referred to as “dialogically contractive”, and “expansive”, respectively (Martin & White, 2005, p. 103). Drawing upon Martin and White’s (2005) terms I refer to the practice for *Figure 2.1.2-IIA* as contractive, and *B* as expansive.



*Figure 2.1.2-II* Schematic representation of an emotional principle of alignment or disalignment, and alignment-disalignment



A number of studies and models foreground the relational component of the emotional principle (Campos, Frankel, & Camras, 2004; Denzin, 1984; Irvine, 1990; Lazarus, 1991; Lemke, 1995; Mesquita & Albert, 2007; Zembylas, 2004d, 2007b). Brenneis (1990), pointing to the intimate relation between person and environment, comments “‘feelings’ often provide a social rather than individual idiom, a way of commenting not so much on oneself as on oneself in relation to others” (p. 113). Bedford (1986), indicating the indivisibility of person and environment, remarks:

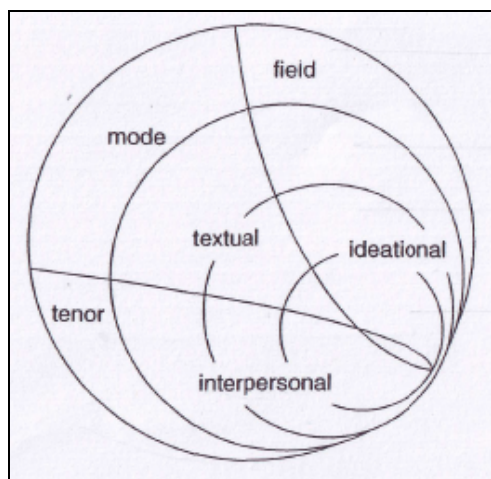
Emotion concepts are...not purely psychological: they presuppose concepts of social relationships and institutions, and concepts belonging to systems of judgement, moral, aesthetic and legal. In using emotion words we are able, therefore, to relate behaviour to the complex background in which it is enacted, and so to make human action intelligible. (p. 30)

### **2.1.3 The Contextualized Nature of Language: The Notion of the Subject**

SFL describes language as language in context. The contextualized nature of language operates at two interrelated levels, namely the context of situation and context of culture. The context of situation pertains to the immediate context in which language is used (Christie & Unsworth, 2000). The context of culture includes the full range of systems of situational contexts for a culture (Christie & Unsworth, 2000). For the context of situation three main variables influence the way language is used, namely field, mode and tenor (Eggins, 1994; Martin & White, 2005).

Field concerns the domestic or institutionalized activity, its content, or topic (Christie & Unsworth, 2000; Martin & White, 2005). Mode is to do with the medium (spoken or written), and role (ancillary or constitutive), of language (Christie & Unsworth, 2000). Lastly, tenor, the variable most relevant to this study, concerns the nature of the relationships among the people involved (Christie & Unsworth, 2000; Martin & White, 2005). As shown in *Figure 2.1.3-I* below, language choices of the experiential, textual

and interpersonal metafunction are primarily involved in realizing field, mode and tenor, respectively (Christie, 2002):



*Figure 2.1.3-I* The three metafunctions in relation to field, tenor and mode (Martin & White, 2005, p. 27)

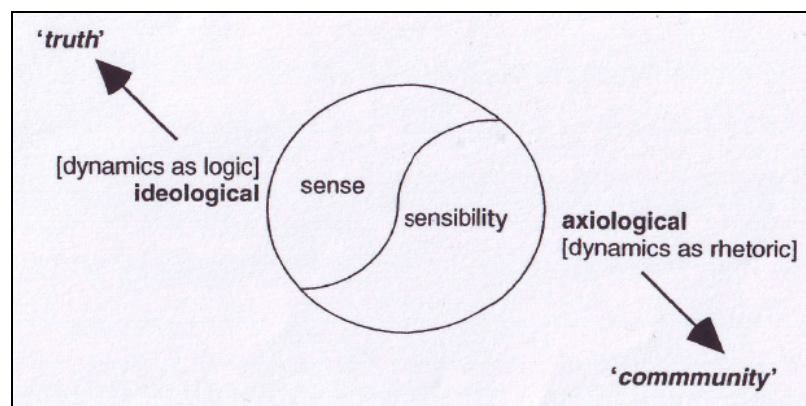
For tenor two key variables identified by Martin and White (2005) are power and solidarity. Power deals with the “vertical” (Martin & White, 2005, p. 29) dimension of interpersonal relations. It foregrounds the ideational, or in Bakhtin’s terms the ideological (a term Martin and White (2005) point out denaturalizes the experiential as political). Power concerns ‘truth’ (Martin & White, 2005). It is to do with the “naturalized reality” (Martin, 2004a, p. 323). Power foregrounds who gets to express, and who must suppress various feelings (Zembylas, 2007a).

A number of studies examine the manner in which power relations shape emotion expression, and the manner in which individuals are aligned into ‘ways of feeling’ (Abu-Lughod & Lutz, 1990; Boler, 1999; Hochschild, 1979; Liljestrom, Roulston, & deMarrais, 2007; Schmidt & Datnow, 2005; Zembylas, 2002, 2003, 2004a, 2004c, 2004d, 2005a, 2005b, 2007a). Outlining the ideological aspect of ‘feeling rules’, Hochschild (1979) states:

...rules seem to govern how people try or try not to feel in ways “appropriate to the situation.” Such a notion suggests how profoundly the individual is “social,” and “socialized” to try to pay tribute to official definitions of situations, with no less than their feelings. (p. 552)

Solidarity, on the other hand, deals with the “horizontal” (Martin & White, 2005, p. 29) dimension of interpersonal relations. It pertains to the interpersonal, or in Bakhtin’s terms the axiological (a term Martin and White (2005) indicate foregrounds evaluation over interaction). Solidarity brings ‘community’ into focus (Martin & White, 2005). In other words, the “social reality” is its principle concern (Martin, 2004a, p. 323). Solidarity foregrounds relationships as dynamic processes that unfold over time and involve negotiation of intimacy and distance (Martin & White, 2005).

As the ‘vertical’ dimension of interpersonal relations might be foregrounded, so too might the ‘horizontal’ dimension. However, whether the one or the other comes to the fore, both are ever present and are interwoven in the constitution of the “semiotic reality” (Martin, 2004a, p. 323). Power and solidarity come together as a text unfolds as rationality (a quest for truth) and rhetorically (an invitation to community) (Martin & White, 2005). This relationship is depicted in *Figure 2.1.3-II* below:



*Figure 2.1.3-II* Texts as ideological and axiological (Martin & White, 2005, p. 212)

The contextualized nature of language reveals the notion of subject for the emotional principle. The model of the teacher can be one in which “things” (e.g. contexts) “must be kept apart” (Bernstein, 2000, p. 11). If ‘things must be kept apart’ there is a widening of the “gap” (Bernstein, 2000, p. 30) between the “inner” and “outer” (Bernstein, 2000, p. 8). The ‘inner’ might be representative of: the “internal model of language” (Martin & White, 2005, p. 26) (ideational, interpersonal, textual); and the individual. And the ‘outer’ might be representative of: the “external model of language” (Martin & White, 2005, p. 27) (field, tenor, mode); and the social.

This model of the teacher, a model that is contained within the emotional principle, situates power and solidarity in the ‘outer’ realm of the emotional practice. The “*male controlling code*” exemplifies this pedagogic modality, a code that aims to control things, events, and people (Poynton, as quoted in O’Halloran, 2004, p. 222). The “male morality” of “rights and noninterference” (Gilligan, as quoted in Lutz, 1986, p. 303) too characterizes this particular pedagogic modality.

This model of the teacher foregrounds ideology, the ideational, power, truth. The emotional practice for this teacher is exemplified by the “arena” (Bernstein, 2000, p. 202), or “*emotional regime*” (Zembylas, 2005a, p. 474). The emotional principle or ‘feeling rule’ is ideological. I understand this notion of the subject to be an institutionally oriented concept. It is one in which the role of teacher as “authority” is foregrounded (Christie, 2002, p. 162; see also Christie, 2004). Outlining the consistency that characterizes the role and character of the teacher as authority with respect to evaluation, Christie (2002) states:

Teacher authority is established very early, and though it will be expressed very differently by the time students reach the upper years of the secondary school, the essential role and character of the teacher as ‘in charge’ of what is taught and learned, when it is taught and learned, how it is taught and learned, and, in particular, of how students’ learning is evaluated, does not change. (p. 29)

The model of the teacher can also be one in which “things” (e.g. contexts) “must be brought together” (Bernstein, 2000, p. 11). If ‘things must be brought together’ there is a

narrowing of the “gap” (Bernstein, 2000, p. 30) between the “inner” and “outer” (Bernstein, 2000, p. 8). Here too, the ‘inner’ might be representative of: the “internal model of language” (Martin & White, 2005, p. 26) (ideational, interpersonal, textual); and the individual. And the ‘outer’ might be representative of: the “external model of language” (Martin & White, 2005, p. 27) (field, tenor, mode); and the social.

This model of the teacher, a model that is contained within the emotional principle, situates power and solidarity in the ‘outer’ and ‘inner’ realms of the emotional practice. The “*female responding code*” exemplifies this pedagogic modality, a code that aims to respond to things, events, and people (Poynton, as quoted by O’Halloran, 2004, p. 222). The “females’ morality of caring and responsibility” too characterizes this particular pedagogic modality (Gilligan, as quoted in Lutz, 1986, p. 303).

This model of the teacher foregrounds axiology, the interpersonal, solidarity, community. The emotional practice for this teacher is the emotional community. The emotional principle, or ‘feeling rule’ is axiological. I understand this notion of the subject to be an “*imaginary subject*” (Bernstein, 2000, p. 33), a concept that seems to foreground change that comes from the process of mediation between peoples. It is one in which the role of the teacher as rhetorician is foregrounded (Edwards, Nicoll, Solomon, & Usher, 2004; Kress, Jewitt, Ogborn, & Tsatsarelis, 2001).

### 2.1.4 Summary

In 2.1 I introduced three characteristics of the emotional principle under several complementary lenses of SFL. In sum, I examined the value-laden characteristic under the functional nature of language outlining the manner in which the degree of selection for communication can be high or low, or high-low (i.e. operate on a cline from a high to low degree of selection). I then looked at the relational characteristic under the systemic nature of language describing the manner in which sets of choices can be brought into a reciprocal and non-reciprocal relationship. Lastly, I addressed the notion of the subject under the contextualized nature of language indicating that the notion of the subject can

be one in which the rule ‘things must be kept apart’ is appropriate, and another in which ‘things must be brought together’ applies. In addressing the notion of the subject I looked at the situation of power and solidarity in the ‘outer’ realm of the emotional practice, as well as the ‘outer’ and ‘inner’ realm. In doing so, I presented a model in which power comes to the fore, as well as one in which solidarity is foregrounded.

From the discussion of the emotional principle under the three complementary lenses of SFL, two emotional principles can be identified. The one emotional principle concerns:

- An alignment *or* disalignment to a discourse, i.e. the positive *or* negative appraisal of a discourse;
- A non-reciprocal relationship between one discourse and another; and
- An institutionally-oriented subject, or ‘male-controlling code’.

The other emotional principle concerns:

- An alignment-disalignment to a discourse, i.e. the positive *and* negative appraisal of a discourse;
- A reciprocal relationship between one discourse and another; and
- An ‘imaginary’ subject, or ‘female-responding code’.

I refer to the former as an ‘ideological’ emotional principle, and the latter as an ‘axiological’ emotional principle. In doing so I extend the notion of a “feeling rule” (Hochschild, 1979, p. 551), “*emotional rule*” (Zembylas, 2002, p. 93) or “pedagogic discourse” (Bernstein, 2000, p. 32) by making a distinction between two regulatory principles that can underpin an emotional practice. I refer to the emotional practice, or model of emotion, underpinned by an ‘ideological’ emotional principle as a ‘linear’ model of emotion due to its emphasis on non-reciprocal, or hierarchical, relations [Section 2.3.3]. In addition, I refer to the model of emotion underpinned by an ‘axiological’ emotional principle as a ‘non-linear’ model of emotion due to its emphasis on reciprocal, or “horizontal” (Martin & White, 2005, p. 29), relations [Section 2.3.3]. In the following section, 2.2-2.4, I expand upon the three characteristics of the emotional principle identified, and outline the implications of an ‘ideological’ and ‘axiological’ emotional principle for each of these characteristics.

## **2.2 The Emotional Principle: The Value-Laden Characteristic**

### **Introduction**

In 2.2 I consider the value-laden characteristic of the emotional principle introduced in 2.1.1 under the functional nature of language. I examine the relation between feelings and appraisals, the classification of feelings and appraisals, and the multilayered structure of pairs underlying feeling and thinking. To do so, I draw upon a multicomponential model of emotions, a framework for mapping feelings, and a model of institutionalized feelings. In addition, I consider the implications of an ‘ideological’ and ‘axiological’ emotional principle for each of these aspects.

### **2.2.1 The Relation between Feelings and Appraisals**

In 2.2.1, I examine the relation between feelings and appraisals by drawing upon a “multicomponential” model of emotions (Mesquita & Albert, 2007, p. 489; see also Smith & Kirby, 2000). A multicomponential model of emotions considers emotions to be complex processes that consist of components including appraisal, subjective experience, emotional expression, physiological change, and action tendencies (Sutton, 2007; Sutton & Wheatley, 2003). According to a multicomponential perspective, making a judgement or appraisal, concerning the personal significance of the person-environment transaction, triggers the emotion process (Lazarus, 1991; Schutz, Cross, Hong, & Osbon, 2007).

Appraisals to do with value, or “selectivity” (Lazarus, 1991, p. 135), and control are considered to be central to the emergence of emotions (Lazarus, 1991; Pekrun, Frenzel, Goetz, & Perry, 2007). Appraisals to do with value and control are also deemed important in providing an “explanation of individual differences in the evaluation of common experiences” (Lazarus, 1991, p. 136). In this study, I am concerned with individual differences between one emotional practice and another depending on the

“favoured” (Bernstein, 2000, p. 47) emotional principle that regulates “ways of feeling” (Martin & White, 2005, p. 42).

Value and control can be overlaid with various constructs in the literature that will be taken up in sections 2.2.2-2.3.3: Whereas value is a “spatial concept” (Bernstein, 2000, p. 206), control is a “temporal concept” (Bernstein, 2000, p. 206). Value is interwoven with the notion of “appreciation” (Martin & White, 2005, p. 56), “classification” (Bernstein, 2000, p. 6), and “*inscribed habits of (in)attention*” (Boler, 1999, p. 180). Control is interwoven with the notion of “judgement” (Martin & White, 2005, p. 52), “framing” (Bernstein, 2000, p. 12), and the “locus of control” (Bernstein, 2000, p. 179), or “locus of causality” (Weiner, 2007, p. 79).

The ‘locus of control’ contrasts causes that are internal versus external to an individual (Weiner, 2007). Causes that are internal pertain to “*action-control* expectancies” (Pekrun, Frenzel, Goetz, & Perry, 2007, p. 18). Causes that are external pertain to “*action-outcome* expectancies” (Pekrun, Frenzel, Goetz, & Perry, 2007, p. 18). “*Personal control*” (Lazarus, 1991, p. 136), or “efficacy” (Tschannen-Moran & Woolfolk Hoy, 2001, p. 783), depends on ‘action-control expectancies’ and ‘action-outcome expectancies’. Outlining internal and external causes of success for the construct of teacher efficacy, Tschannen-Moran and Woolfolk Hoy (2001) state:

A teacher’s efficacy belief is a judgement of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated (Armor et al., 1976; Bandura, 1977). (p. 783)

Appraisals to do with value and control pertain to the intensity of feelings. The intensity of feelings increases with increasing controllability, or uncontrollability over an activity, and with increasing worth, or worthlessness of an activity (Pekrun, Frenzel, Goetz, & Perry, 2007). Feelings are elicited by activities appraised to be real, and the intensity of feelings corresponds to the degree to which an activity is real: “What is taken to be real elicits emotions. What does not impress one as true and unavoidable elicits no emotion or



a weaker one” (Frijda, 1988, p. 352). Frijda (1988) refers to this as the “*law of apparent reality*” (p. 352).

An ‘ideological’ emotional principle involves appraisals to do with a high or low degree of value, and a high or low degree of controllability. In other words, it is a principle that involves the processing of emotional information at a “general level” (Wranik, Feldman Barrett, & Salovey, 2007, p. 399). As a result, an ‘ideological’ emotional principle concerns strong feelings, and “strong commitments” (Lazarus, Kanner, & Folkman, 1980, p. 193). It is a principle that is oriented towards the “naturalized reality” (Martin, 2004a, p. 323):

...if we ask the question, “What makes a commitment powerful, a goal salient, or a value strong?” we must answer that it is the intensity of the emotions... With strong commitments come high hopes, intense fears, and the emotionally laden possibilities of exhilarating successes and depressing failures. (Lazarus, Kanner, & Folkman, 1980, p. 193)

An ‘axiological’ emotional principle involves appraisals to do with value and control that operate along a cline construing higher or lower degrees of positivity and negativity. In other words, it is a principle that involves the processing of emotional information at a “specific level” (Wranik, Feldman Barrett, & Salovey, 2007, p. 399). As a result, an ‘axiological’ emotional principle concerns feelings that are graded along a cline construing feelings of greater or lesser strength. It is a principle that is oriented towards the “social reality” (Martin, 2004a, p. 323). Wranik, Feldman Barrett, and Salovey (2007) state:

...a series of studies by Philippot and his colleagues (Philippot, Baeyens, Douilliez, & Francart, 2004) suggests that processing emotional information at a general level results in more intense emotional feelings and arousal than does elaborating it on a specific level, and that voluntarily focusing on specific personal information induces less emotional arousal than does thinking about the same information at a general level. (p. 399)

An emotional practice for which an ‘ideological’ emotional principle applies is an emotional practice of “strong feelings” (Nias, 1996, p. 3; see also Golby, 1996; Hayes,

1996; Schmidt & Datnow, 2005). Teaching and learning is seen to be a “strongly emotional business” (Jeffrey & Woods, 1996, p. 2), and one that involves “deeply emotional relationships” (Nias, 1996, p. 3):

Behind the ordered control and professional calm of all the teachers whose voices are reported here bubble deep, potentially explosive passions, emotions bringing despair, elation, anger and joy of a kind not normally associated in the public mind with work. (Nias, 1996, p. 3)

In addition, an emotional practice for which an ‘ideological’ emotional principle is brought into play is a practice of “compelling” (Hargreaves, 2005, p. 970), or “grand” (Bernstein, 2000, p. xxvi), narratives. The practice is seen to be a “main site” for a teacher’s self-esteem and fulfillment (Nias, 1996, p. 4), and one in which the teacher “invests heavily” (Nias, 1996, p. 4). It is one of highs and lows:

[Teachers] experience a sense of success or failure in relation to two main aspects of the job. One is the exercise of professional skill... Teachers also experience self-esteem when they feel that they are acting consistently with their beliefs and values. (Nias, 1996, p. 4)

An emotional practice for which an ‘axiological’ emotional principle applies is an emotional practice in which feelings are graded. It is an “expansive” (White, 2000, p. 78), or “ambiguous” (Boler, 1999, p. 188), emotional practice in which multiple narratives are heard. The classroom is seen to be one site of self-esteem and fulfillment. It is one in which ‘little’ successes are brought to light.

### **2.2.2 The Classification of Feelings and Appraisals**

In 2.2.2, I examine the classification of feelings and appraisals by drawing upon a model of evaluation, “appraisal theory” introduced in 1.4 (Martin & White, 2005, p. xi; see also Martin, 1995; Martin, 2000a; Martin, 2002; Martin, 2004b; White, 2001a). Appraisal theory includes a framework for mapping feelings. The framework outlines types of feelings and appraisals, and provides illustrative realizations. It also offers an analytic

lens, for the emotional practice, through its representation of feelings and appraisals. In addition, I draw upon appraisal theory to examine the linguistic resources of gradability. Appraisal theory includes a framework for gradability that outlines the resources for upscaling, or downscaling, feelings and appraisals.

The framework for mapping feelings involves three semantic regions. The first of these regions deals with *feelings*. It concerns registering positive and negative feelings both of the speaker and third parties, and is known as “affect” (Martin & White, 2005, p. 42; see also White, 2001b). The second region deals with *value*. It includes the resources for evaluating semiotic and natural phenomena, and is labeled “appreciation” (Martin & White, 2005, p. 43; see also White, 2001d). The third region for the framework deals with *control*. It covers the resources for evaluating behaviour according to various normative criteria, and is known as “judgement” (Martin & White, 2005, p. 35; see also White, 2001c):

*Affect* groups feelings into three major sets, namely un/happiness, in/security, and dis/satisfaction. Un/happiness is a core member if we adopt a “prototype” (Gross & Thompson, 2007, p. 4; see also Bednarek, 2008) conception of emotions in which emotions are organized as categories involving core, better and worse members (Bednarek, 2008). It concerns “affairs of the heart” (Martin & White, 2005, p. 49), and includes feelings of sadness, dislike, happiness and love. In/security applies to “eco-social well-being” (Martin & White, 2005, p. 49), and covers feelings of anxiety, fear, trust and confidence. Parts of dis/satisfaction, such as interest, are non-core members (Bednarek, 2008). It is “tuned to learning and accomplishment” (Martin & White, 2005, p. 50), and includes feelings of boredom, displeasure, interest and satisfaction.

Registering interest as a non-core member of emotion takes into account the discussion around whether to define interest as an emotion, or a more complex construct involving several components, such as the emotion of enjoyment, and appraisals concerning selectivity (Pekrun & Schutz, 2007). In this study I foreground the component of interest to do with appraisals concerning selectivity (Hidi, 1990). I consider interest to reveal the

relation between the person and environment (Ainley, 2007), in particular relations “*between*” (Bernstein, 2000, p. 5) the person and environment. I discuss the relational aspect of the emotional principle in 2.3. Illustrative realizations, taken from the data for this study, for the three major sets of ‘affect’ are shown in *Figure 2.2.2-I* below:

<i>Affect</i>	
<i>Un/happiness</i>	‘I’m really so <u>glad</u> you remember that’ [LTd83]; ‘I <u>hate</u> that’ [LTf222]...
<i>In/security</i>	‘I totally <u>trust</u> you’ [ATc72 day 2, time: 30.52]; ‘I’m <u>scared</u> ’ [LTa14]...
<i>Dis/satisfaction</i>	‘I am only <u>interested</u> in you’ [LTxviii482]; ‘The rest of the class were <u>angry</u> with her’ [ITiii68]...

*Figure 2.2.2-I* Illustrative realizations for affect

*Appreciation* (Martin & White, 2005; see also White, 2001d) covers three major sets of meanings: reaction, composition and valuation. Reaction entails the degree to which a text/ process captures our attention (Did it grab me?), and its emotional impact on us (Did I like it?) (Martin, 2000a). Our perceptions of proportionality, on the other hand, (Did it hang together?), and detail (Was it hard to follow?) are brought under the category of composition (Martin, 2000a). Lastly, the category of valuation concerns assessments of the worth (Was it worthwhile?) of a text/ process (Martin, 2000a). Illustrative realizations, taken from the data for this study, for the three major sets of ‘appreciation’ are provided in *Figure 2.2.2-II* below:

<i>Appreciation</i>	
<i>Reaction</i>	‘That’s <u>beautiful</u> ’ [LTi347]; ‘That <u>sucks</u> ’ [LTh25]...
<i>Composition</i>	‘It’s really <u>simple</u> words’ [LTj128]; ‘This was another really <u>tricky</u> one’ [LTg91]...
<i>Valuation</i>	‘A very, very <u>creative</u> solution’ [LTc17]; ‘That looks <u>fake</u> ’ [LTg169]...

*Figure 2.2.2-II* Illustrative realizations for appreciation

*Judgement* (Martin & White, 2005; see also White, 2001c) covers two major sets of meanings: social esteem and social sanction. Social esteem pertains to the domain of

social networks for which oral culture plays a central role in regulating behaviour (Martin & White, 2005). It deals with assessments of normality (how unusual a person is), capacity (how competent they are), and tenacity (how reliable they are) (Martin & White, 2005). Social sanction applies to the area of civic duty and religious observance for which written rules and laws lay out what a person should, and should not do (Martin & White, 2005). It deals with assessments of veracity (how honest a person is), and propriety (how ethical they are) (Martin & White, 2005). Illustrative realizations for ‘judgement’, are shown in *Figure 2.2.2-III* below:

<i>Social esteem</i>	
<i>Normality</i>	‘The <u>cool</u> kids’ [LTiv124]; ‘Nerds’ [LTc145]...
<i>Capacity</i>	‘They’re brilliant <u>geniuses</u> ’ [LTc147]; ‘Let’s not be <u>silly</u> ’ [LTl316]...
<i>Tenacity</i>	‘Okay, girls, I’m <u>organized</u> ’ [LTj24]; ‘I’m <u>messing around</u> ’ [LTj17]...
<i>Social sanction</i>	
<i>Veracity</i>	‘You’ve been <u>honest</u> ’ [ATc18 day 1, time: 15.43]; ‘I just caught one of the girls <u>cheating</u> ’ [ATc147 day 4, time: 21.05]...
<i>Propriety</i>	‘I just knew it would be someone being <u>polite</u> ’ [LTg56]; ‘I’ve been so <u>mean</u> ’ [LTg91]...

*Figure 2.2.2-III* Illustrative realizations for judgement

The illustrative realizations provided in *Figure 2.2.2-I* to *III* are directly “inscribed” (Martin & White, 2005, p. 61) in discourse. A fuller understanding of the potential of a text to elicit an emotional response though requires taking into consideration evaluation that is “invoked” (Martin & White, 2005, p. 62). Although an analysis of ‘invoked’ evaluation might be seen to introduce an unwanted element of subjectivity if the alternative position is adopted the tacit operation of the ‘regulative discourse’, that is involved in the selection of the ‘instructional discourse’ [Section 2.1.1], would go unaccounted for (Martin & White, 2005).

As an individual may respond in other ways to a text when the evaluation is more invoked than inscribed it is important to specify whether a text is read “tactically”, “resistantly” or “compliantly” (Martin & White, 2005, p. 62). A tactical reading involves

responding to a text in a neutral, and interested manner (Martin & White, 2005). A resistant reading, on the other hand, involves reading against the grain of the naturalized reading position (Martin & White, 2005). A compliant reading involves subscribing to the naturalized reading position (Martin & White, 2005). In this study, I attempt to analyse texts compliantly to relay the feelings and appraisals of the particular teachers involved.

Texts tend to naturalize a reading position by being fairly directive in conveying feelings (Martin & White, 2005). For example, inscriptions can act as “sign-posts” (Martin & White, 2005, p. 63) telling a reader how to interpret ideational meanings, as the inscriptions tend to colour the surrounding discourse, due to the prosodic nature of interpersonal meanings [Section 2.1.1]. In the data extract below, ‘I’ve got sore hands’ invokes a negative evaluation of capacity. This reading is assisted by the inscription ‘old’. Together, the “co-articulation” (Hood, 2004, p. 150) of the evaluative meanings “support one another textually” (Lemke, 1998a, p. 48):

I laugh, and tell them that I’m old. I’ve got sore hands, I can’t see properly, I’m an old lady, I need respect. I give all this old lady stuff so they don’t expect me to do something nutty. But then again, they think I’m completely nuts. So, that’s fine, and I play on it. [ITii140]

The framework for mapping feelings, as shown in *Figure 2.2.2-IVA* below, lays out the terrain as “systems of oppositions” (Martin & White, 2005, p. 46). An ‘ideological’ emotional principle is revealed through the mapping of feelings as systems of oppositions. There is a widening of the “gap” (Bernstein, 2000, p. 30) (in the form of the space on the page) between the “inner” (Bernstein, 2000, p. 8) (left-hand column) and “outer” (Bernstein, 2000, p. 8) (right-hand column). Here the ‘inner’ might be representative of: classroom ‘x’. The ‘outer’ might be representative of: classroom ‘y’. The ‘inner’ is a space of feelings of like. The ‘outer’ is a space of feelings of dislike.

To provide an analytic lens with which to view an emotional practice characterized by an ‘axiological’ emotional principle I represent the mapping of feelings as systems of

complementarities as well, as depicted in *Figure 2.2.2-IVB* below. There is a narrowing of the “gap” (Bernstein, 2000, p. 30) (in the form of the space on the page) between the “inner” (Bernstein, 2000, p. 8) (left-hand column) and “outer” (Bernstein, 2000, p. 8) (right-hand column). Here the ‘inner’ might be representative of: classroom ‘x’. The ‘outer’ might be representative of: classroom ‘y’. In the “blurring of categories” (Bernstein, 2000, p. xxvi) the space is one of feelings of like *and* dislike.

In a similar light, an ‘ideological’ emotional principle is revealed through the mapping of appraisals as systems of oppositions, as shown in *Figure 2.2.2VA* and *VIA* below, for capacity and composition. To provide an analytic lens with which to view an emotional practice characterized by an ‘axiological’ emotional principle I represent the mapping of appraisals as systems of complementarities, as depicted in *Figure 2.2.2VB* and *VIB* below. For an ‘ideological’ emotional principle, the space is one of adult-like, *or* child-like behaviour, for example. It is one of simplicity, *or* complexity. In comparison, for an ‘axiological’ emotional principle, the space is one of adult-like *and* child-like behaviour. It is one of simplicity *and* complexity.

A

<i>Affect</i>	<i>Positive</i>	<i>Negative</i>
<i>Un/ happiness</i>	like,...	dislike,...
<i>In/security</i>	security,...	insecurity,...
<i>Dis/satisfaction</i>	interest,...	disinterest,...

B

<i>Affect</i>	<i>Positive-negative</i>
<i>Un/ happiness</i>	like-dislike,...
<i>In/security</i>	security-insecurity,...
<i>Dis/satisfaction</i>	interest-disinterest,...

*Figure 2.2.2-IV* The representation of affect as systems of oppositions (Adapted from Martin & White, 2005, p. 51), and complementarities

A

<i>Judgement</i>	<i>Positive</i>	<i>Negative</i>
<i>Capacity</i>	adult-like,...; expert,...; powerful,...	child-like,...; inexpert,...; powerless,...

B

<i>Judgement</i>	<i>Positive-negative</i>
<i>Capacity</i>	adult-like-child-like,...; expert-inexpert,...; powerful-powerless,...

*Figure 2.2.2-V* The representation of capacity as systems of oppositions (Adapted from Martin & White, 2005, p. 53), and complementarities

A

<i>Appreciation</i>	<i>Positive</i>	<i>Negative</i>
<i>Composition</i>	intricate,...; simple,...; organized,...	plain,...; complex,...; disorganized...

B

<i>Appreciation</i>	<i>Positive-negative</i>
<i>Composition</i>	intricate-plain,...; simple-complex,...; organized-disorganized,...

*Figure 2.2.2-VI* The representation of composition as systems of oppositions (Adapted from Martin & White, 2005, p. 56), and complementarities

The framework for upscaling or downscaling outlines lexicogrammatical resources by which gradability is realized for affect, appreciation and judgment. As outlined in 2.2.1, gradability is a general feature of affect, appreciation and judgement. This is depicted in *Figure 2.2.2-VII* below. Upscaling or downscaling for affect, appreciation and judgement can operate according to intensity, or amount. Realizations include intensification, repetition, comparative and superlative morphology, and various phonological and graphological features (Martin & White, 2005). Graduations according to intensity and amount are referenced as “force” (Martin & White, 2005, p. 137).



	<i>low degree</i>	←————→ <i>high degree</i>
<i>Affect</i>	like	love      adore
<i>Appreciation</i>	slightly helpful	fairly helpful      very helpful
<i>Judgement</i>	fairly good	rather good      very good      extremely good
	little success	some success      much success

*Figure 2.2.2-VII* The gradability of affect, appreciation and judgement (Adapted from Martin & White, 2005, p. 136)

Assessments of degree of intensity operate over qualities and processes. Upscaling or downscaling can be realized through an “isolated lexeme” (Martin & White, 2005, p. 148), e.g. fairly good, rather good, very good, extremely good. It can also be realized through “semantic infusion” (Martin & White, 2005, p. 148), e.g. like, love, adore. The scaling of qualities and processes is referred to as “intensification” (Martin & White, 2005, p. 140). In comparison, assessments of amount operate over entities. These entities can be concrete (e.g. one bench, sixteen benches), or abstract (e.g. little success, some success, much success). Assessments of amount are referred to as “quantification” (Martin & White, 2005, p. 140).

In addition to increasing or decreasing the volume of the language of evaluation as evaluative prosodies are set up across a text, ‘force’ can also invoke evaluation, and indirectly increase or decrease the volume (Martin & White, 2005; see also Hood, 2004). For example, in the extract below, ‘sixteen’ implies value through quantity. To do so, it relies on “co-textual support” (Hood, 2004, p. 88). The inscription ‘fantastic’ acts a “sign-post” (Martin & White, 2005, p. 63) to tell us how to read the figure ‘sixteen’. The figure ‘sixteen’ invokes value of positive appreciation, and indirectly upscales this evaluation as the activity that is positively appraised is done not once, but a total of sixteen times (Martin & White, 2005):

I was drawing a flower, and as they passed by they started telling me where to put the labels, because I had all the lines on. And then I said, 'Well, what else can we

draw?’ And then I just turned around, and started on the next bench. So we went round sixteen benches in the room and each of them had a picture on...It was a revision lesson, and it was fantastic. [ITii110]

### 2.2.3 The Multilayered Structure of Pairs Underlying Feeling and Thinking

In 2.1.1, I examined the relation between the ‘affective’ and ‘informational’. In this section, I return to the relation between ‘feeling’ and ‘thinking’. I do so to consider the underlying pairs that come under ‘feeling’ and ‘thinking’ in the literature. Most notably, I consider the pair of non-institutionalized and institutionalized feelings. I examine the relation between non-institutionalized and institutionalized feelings for Martin and White’s (2005) model of “institutionalized affect” (p. 45) to consider the opportunities it affords as a lens with which to view the emotional practice.

Bernstein (2000) identifies two fundamental forms of discourse and the pairs that come under these forms. I refer to these forms as ‘feeling’ and ‘thinking’, and understand the following pairs to come under these forms in the literature: emotion and reason (Boler, 1999; Fricker, 1991); embodied and rational (Lutz, 1986; McWilliam, 1996); individual and social (Lutz, 1986; Zembylas, 2007c); private and public (Leavitt, 1996; Zembylas, 2007a). Different levels of individual and social experience, at which these pairs operate, are identified by Bernstein (2000). These include: the evaluative, epistemological, cognitive, social, contextual, voice, mode, and institutional, as shown below:

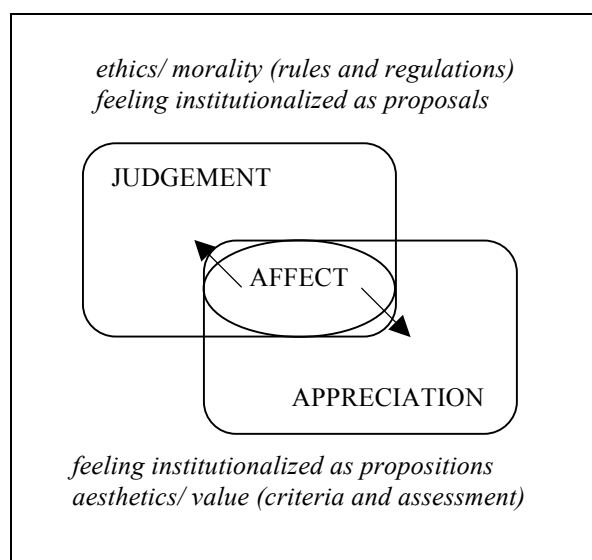
	<i>‘Feeling’</i>	<i>‘Thinking’</i>
<i>Evaluative</i>	“specific” (Wranik, Feldman Barrett, & Salovey, 2007, p. 399)	“general” (Wranik, Feldman Barrett, & Salovey, 2007, p. 399)
<i>Epistemological</i>	“everyday” knowledge (Martin, 2007, p. 38)	“scientific” knowledge (Martin, 2007, p. 38)
<i>Cognitive</i>	“whole” (Lazarus, 1999, p. 22)	“parts” (Lazarus, 1999, p. 22)
<i>Social</i>	“intimacy” (Martin & White, 2005, p. 31)	“distance” (Martin & White, 2005, p. 31)

<i>Contextual</i>	“inner” (Lazarus, 1991, p. 12)	“outer” (Lazarus, 1991, p. 12)
<i>Voice</i>	“dominated” (Bernstein, 2000, p. 156)	“dominant” (Bernstein, 2000, p. 156)
<i>Mode</i>	“horizontal” relations (Martin & White, 2005, p. 29)	“vertical” relations (Martin & White, 2005, p. 29)
<i>Institutional</i>	“gemeinschaft” (Bernstein, 2000, p. 156)	“gesellschaft” (Bernstein, 2000, p. 156)

*Figure 2.2.3-I* The operation of the pairs underlying ‘feeling’ and ‘thinking’ (Adapted from Bernstein, 2000, p. 156)

The pair non-institutionalized and institutionalized feelings comes under the pair ‘feeling’ and ‘thinking’. In Martin and White’s (2005) model of “institutionalized affect” (p. 45) our gaze is directed by a vector, as shown in *Figure 2.2.3-II* below, away from non-institutionalized feelings, and towards institutionalized feelings. In other words, a unidirectional arrow, indicating a “unidirectional causal model” (Bandura, 1978, p. 344), demonstrates an alignment to institutionalized feelings. Martin and White (2005) describe institutionalized feelings as follows:

One way to think about *judgement* and *appreciation* is to see them as institutionalized feelings, which take us out of our everyday common sense world in the uncommon sense worlds of shared communities of values. (p. 45)



*Figure 2.2.3-II* The relation between non-institutionalized and institutionalized feelings (Martin & White, 2005, p. 45)

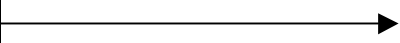
In Martin and White's (2005) model of "institutionalized feelings" (p. 45), non-institutionalized feelings are marked by a low degree of value, and institutionalized feelings are marked by a high degree of value. This is evident from the terms linked to affect for the model, as shown in *Figure 2.2.3-III* below, depicting affect as natural, primitive, wild. A similar sentiment is expressed by Maton (Christie, Martin, Maton, & Muller, 2007) who describes knowledge creation that comes under 'feelings' as "suburban sprawl" (p. 256), and knowledge creation that comes under 'thinking' as "the building of towers" (p. 256).

<i>'Feeling'</i>	<i>'Thinking'</i>
<ul style="list-style-type: none"> <li>• "intellectual creation as suburban sprawl" (Christie, Martin, Maton, &amp; Muller, 2007, p. 256);</li> <li>• "the expressive resource we are born with" (Martin &amp; White, 2005, p. 42);</li> <li>• "wild will" (Martin &amp; White, 2005,</li> </ul>	<ul style="list-style-type: none"> <li>• "intellectual creation as the building of towers" (Christie, Martin, Maton, &amp; Muller, 2007, p. 256)</li> </ul>

p. 45); • “voracious tastes” (Martin & White, 2005, p. 45); • “emotional volcanoes” (Martin & White, 2005, p. 45)	
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*Figure 2.2.3-III* The appraisal of ‘feeling’ and ‘thinking’

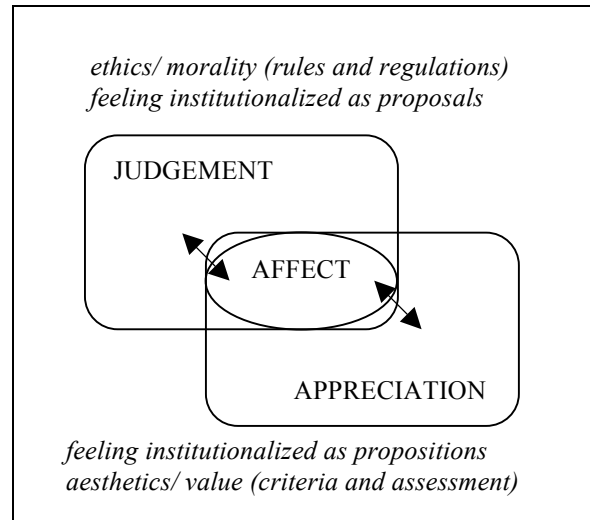
As a result, the emotional principle is one in which “things must be kept apart” (Bernstein, 2000, p. 11). It is an ‘ideological’ emotional principle. Here ‘things’ pertains to non-institutionalized and institutionalized feelings. I would argue though that the “gap” (Bernstein, 2000, p. 30) equally applies to non-institutionalized feelings for ‘x’ and ‘y’, as well as institutionalized feelings for ‘x’ and ‘y’. Here ‘x’ and ‘y’ pertains to “agents”, “agencies”, “discourses”, “practices” (Bernstein, 2000, p. 6). This is shown in *Figure 2.2.3-IV* below, together with the feelings, appraisals and model of causality for this particular principle.

	<i>‘Feeling’</i>	<i>‘Thinking’</i>
‘Informational’	non-institutionalized feelings for ‘x’	institutionalized feelings for ‘y’
	non-institutionalized feelings for ‘x’	non-institutionalized feelings for ‘y’
	institutionalized feelings for ‘x’	institutionalized feelings for ‘y’
‘Affective’	strong feelings	strong feelings
Appraisals	low degree of value (low degree of control)	high degree of value (high degree of control)
Model of causality	unidirectional causal model	

KEY Shading represents feelings marked by invisibility

*Figure 2.2.3-IV* The relation between ‘feeling’ and ‘thinking’ for an ‘ideological’ emotional principle

To provide a lens for a practice characterized by an ‘axiological’ emotional principle I represent Martin and White’s (2005) model as shown in the figure below:

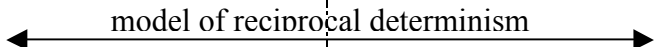


*Figure 2.2.3-V* The relation between non-institutionalized and institutionalized feelings  
(Adapted from Martin & White, 2005, p. 45)

In *Figure 2.2.3-V* our gaze is directed towards non-institutionalized, and institutionalized feelings. In a similar manner, our gaze might also directed towards non-institutionalized feelings for ‘x’ and ‘y’, and institutionalized feelings for ‘x’ and ‘y’ [*Figure 2.2.3VI*], where ‘x’ and ‘y’ pertains to “agents”, “agencies”, “discourses”, “practices” (Bernstein, 2000, p. 6). Instead of a “unidirectional causal model” a model of “reciprocal determinism” (Bandura, 1978, p. 344) applies, bringing a negotiated relationship of alignment-disalignment to the fore. In valuing feelings, the emphasis is on “things must be brought together” (Bernstein, 2000, p. 11). There is a recognition of “people’s emotions”, as advocated by Fricker (1991):

Of course reason must regulate wayward emotions and prejudicial feelings, but equally emotion must regulate reason in order that accepted forms of interpretation and rationality do not brutalize and deny people’s emotions,

forbidding them their due interpretation, their meaning, and their political significance. (p. 18)<sup>2</sup>

	<i>'Feeling'</i>	<i>'Thinking'</i>
'Informational'	non-institutionalized feelings for 'x'	institutionalized feelings for 'y'
	non-institutionalized feelings for 'x'	non-institutionalized feelings for 'y'
	institutionalized feelings for 'x'	institutionalized feelings for 'y'
'Affective'	strong(-weak) feelings	strong(-weak) feelings
Appraisals	high(-low) degree of value high(-low) degree of control	high(-low) degree of value high(-low) degree of control
Model of causality		

KEY Dotted line represents the principle "things must be brought together" (Bernstein, 2000, p. 11)

*Figure 2.2.3-VI* The relation between 'feeling' and 'thinking' for an 'axiological' emotional principle

## 2.2.4 Summary

In 2.2 I examined the relation between feelings and appraisals using a multicomponential model of emotions to unpack the relation between feelings, value and control, the intensity of feelings, and reality. I examined the operation of an 'ideological' and 'axiological' emotional principle. For an 'ideological' emotional principle there is a processing of emotional information at a general level, there is the presence of strong feelings, and the naturalized reality is brought to the fore. For an 'axiological' emotional principle there is a processing of emotional information at a specific level, feelings operate on a cline, and the social reality is foregrounded.

<sup>2</sup> Graham (2002) similarly critiques the "fact-value disjunction" (p. 239) of Martin and White's (2005) model of "institutionalized affect" (p. 45). He states "...the notion that all appraisals (or evaluations) are 'encoded feeling' (Martin 2000: 147) is problematic for any socially oriented analysis of meaning" (Graham, 2002, p. 239).

The classification of feelings and appraisals using a model of evaluation, ‘appraisal theory’, was looked at to examine types of feelings and appraisals, resources of gradability, and illustrative realizations. I indicated the manner in which the framework for mapping feelings provides an analytic lens for an emotional practice characterized by an ‘ideological’ emotional principle through its mapping of feelings and appraisals as systems of oppositions. In order for the framework to provide an analytic lens for a practice underpinned by an ‘axiological’ emotional principle feelings and appraisals were represented as systems of complementarities.

Lastly, I addressed the multilayered structure of pairs underlying feeling and thinking foregrounding a model of institutionalized feelings. I highlighted the manner in which the model provides an analytic lens for a practice regulated by an ‘ideological’ emotional principle through its depiction of the relation between ‘feeling’ and ‘thinking’ in line with the rule ‘things must be kept apart’. In order for a practice marked by an ‘axiological’ emotional principle to be visible through the model as well, the relation between ‘feeling’ and ‘thinking’ was represented in accordance with the rule ‘things must be brought together’.

In the next section I examine the second aspect of the emotional principle, namely: the relational characteristic.

## **2.3 The Emotional Principle: The Relational Characteristic**

### **Introduction**

In 2.3 I examine the relational characteristic of the emotional principle introduced in 2.1.2 under the systemic nature of language. I begin by looking at ‘relations between’ and ‘within’ for categories. I then focus upon the realization of relations through different emotion regulation strategies. Lastly, I consider the realization of relations through



different pedagogic modalities. In addressing the relational characteristic, I draw upon Bernstein's (2000) model of pedagogic relations, Gross' (1998) model of emotion regulation, and Bernstein's (2000) "visible" and "invisible" (p. 14) pedagogic modalities.

### 2.3.1 Relations Pertaining to the Emotional Practice

In 2.3.1 I consider 'relations between', and 'within', the emotional practice by drawing upon a language for analyzing these relations more fully. I move towards a greater level of delicacy in the description of relations by taking internal and external relations into account. I also address three levels at which relations operate, starting at the fundamental level of space and time in order to map out "emotional geographies" (Hargreaves, 2000, p. 815) for an emotional practice. For each of these aspects the implications of an 'ideological' and 'axiological' emotional principle are examined.

In order to unpack and explain these relations more clearly I introduce an episode of classroom interaction here, which I call the '*Summer Text*'. The episode comes from a lesson in which the learners are engaged in an investigation to determine the time taken for a parachute to fall a fixed distance. The experiment is carried out in a classroom that has a door that opens out onto a balcony. A breeze is blowing into the classroom, and the birds can be heard singing outside. The sounds from outside that enter the classroom, elicit the following conversation:

[LTxxi266-275]

xxi	266	S1: I love that sound outside, that Summery.
xxi	267	S2: Yeah.
xxi	268	S1: It feels like Summer.
xxi	269	S2: I hate it when you're home, like at home sick, and it's sunny. I hate it. And you all like, you feel sick...
xxi	270	S3: Yeah.
xxi	271	S2: Yeah, I like it when you're home sick, and it's rainy.
xxi	272	S1: Yeah, cause it's all like depressing out there.
xxi	273	S2: Yip.
xxi	274	S1: So then we can all be depressed...
xxi	275	S1: Cause, then you're like at home sick, and it's like this, and you like,

		[God] [unclear], everyone else is out in the sun, and you're stuck inside.
--	--	--

## 1. Relations Between and Relations Within

In this section I principally draw upon Bernstein's (2000) theory of pedagogic relations, introduced in 1.4, to consider "relations *between*", and "*within*", the emotional practice (p. 5) (see also Bernstein, 1990). In 2.2.3 I dealt with relations between, and within, for 'feeling' and 'thinking'. I brought the 'between' in 'relations *between*' into view by examining the 'gap' between 'feeling' and 'thinking'. I also brought the 'within' in 'relations *within*' to the fore by looking at the agent, agency, discourse, and practice marked by 'feelings' and/ or 'thinking'. In this section, I draw upon a language to interpret and analyze these relations more thoroughly.

I begin by examining the 'between' in "relations *between*" (Bernstein, 2000, p. 5) for the transmission context. A transmission context might be seen to be composed of an interactional context, and practice (Bernstein, 2000), where the interactional context, or practice, stands in relation to other contexts, or practices. The 'between' in 'relations *between*' for these contexts or practices translates into a "space" (Bernstein, 2000, p. 6). For an 'ideological' emotional principle this space, or boundary, is "visible" (Bernstein, 2000, p. 14) (*Figure 2.3.1-IA*). It is strong. Bernstein (2000) refers to such a practice as one that is marked by "strong classification" (p. 7). I indicate strong boundaries for the emotional practice using Bernstein's (2000) depiction of strong boundaries through continuous lines (*Figure 2.3.1-IA*). For an 'axiological' emotional principle this boundary is "invisible" (Bernstein, 2000, p. 14) (*Figure 2.3.1-IB*). It is a weak boundary. Bernstein (2000) refers to such a practice as one that is marked by "weak classification" (p. 7). I illustrate weak boundaries for the emotional practice using Bernstein's (2000) representation of weak boundaries through dotted lines (*Figure 2.3.1-IB*). For the 'Summer Text' above, several interactional contexts, and practices are evident from the spoken language, and visual languages described in brief in the introductory paragraph for the text. One *interactional context* is the science classroom. Another is the school yard. One *interactional practice* is doing a science investigation. Another is listening to

the sounds outside. The boundary between these contexts and practices is weak. This is evident in spatial terms from the open door.

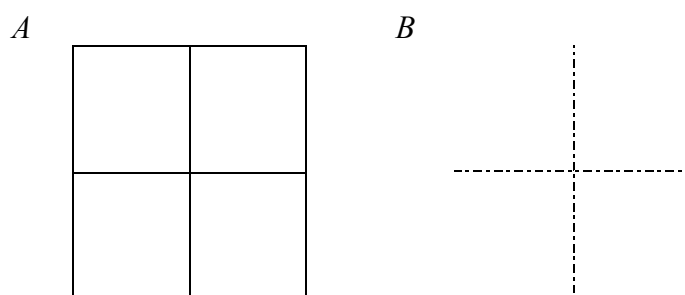
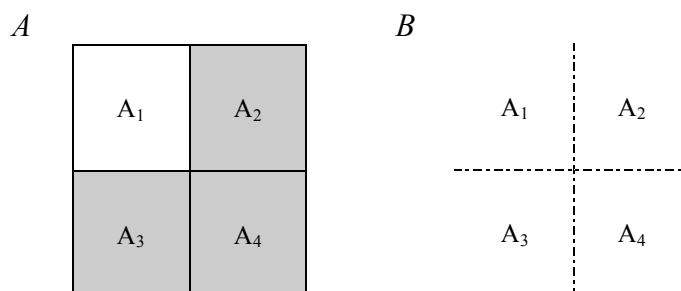


Figure 2.3.1-I Classification for the emotional practice

Classification is seen to translate relations of power (Bernstein, 2000), and (in this study) relations of solidarity as well. It is a “spatial concept” (Bernstein, 2000, p. 206) that emphasizes the *recognition* of an agent, agency, discourse, practice. For an ‘ideological’ emotional principle, there is a *recognition* of relations of power. The emotional practice possesses the “recognition rule” (Bernstein, 2000, p. 17) for relations of power. This rule is one that formulates appraisals of value that are high or low. It is oriented towards stability, or “structure” (Lazarus, 1999, p. 13). For an ‘axiological’ emotional principle, there is a *recognition* of relations of solidarity. The emotional practice possesses the “recognition rule” (Bernstein, 2000, p. 17) for relations of solidarity. This rule is one that formulates appraisals of value that are graded. It is directed towards change, or “process” (Lazarus, 1999, p. 13).

Having examined “relations *between*” (Bernstein, 2000, p. 5) for the interactional contexts, and practices that pertain to the transmission context, I now consider “relations *within*” (Bernstein, 2000, p. 5) for the emotional practice. The ‘within’ in ‘relations *within*’ may translate into “agents”, “agencies”, “discourses” or “practices” (Bernstein, 2000, p. 6). For an ‘ideological’ emotional principle a discourse, for example, is “visible” (Bernstein, 2000, p. 14). More specifically, discourse ‘A<sub>1</sub>’ is ‘visible’ (Figure 2.3.1-IIA). Bernstein (2000) refers to such a practice, as depicted in Figure 2.3.1-IIA, as one that is marked by “strong” “framing” (p. 13). For an ‘axiological’ emotional principle a

discourse, for example, is “invisible” (Bernstein, 2000, p. 14). More precisely, discourse ‘A<sub>1</sub>’ is ‘invisible’, and discourse ‘A<sub>1</sub>’ to ‘A<sub>4</sub>’ are visible to varying degrees (*Figure 2.3.1-IIB* below). Bernstein (2000) refers to such a practice, as shown in *Figure 2.3.1-IIB*, as one that is marked by “weak” “framing” (p. 13).



*Figure 2.3.1-II* The ‘silences’ or ‘presences’ for the emotional practice concerning the agent, agency, discourse, practice

Framing concerns “*who controls what*” (Bernstein, 2000, p. 12). In this sense framing is overlaid with appraisals of control (Pekrun, Frenzel, Goetz, & Perry, 2007), and the “locus of control” (Bernstein, 2000, p. 179), or “locus of causality” (Weiner, 2007, p. 79). Framing is to do with control over: (1) the *selection of communication*; (2) its *sequencing*; (3) its *pacing*; (4) the *criteria of evaluation*; and (5) the *social base* (Bernstein, 2000, p. 12-13). For the ‘*Summer Text*’ above, the sounds of Summer enter the classroom (*selection of communication*). These sounds are positively appraised (*evaluation criteria*). The learners engage in dialogue about the language external to the classroom (*pacing*), and do so spontaneously (*sequencing*). The flow of discourses constructs a space that is indeterminate (*social base*).

Framing is seen to translate relations of control (Bernstein, 2000). It is a “temporal concept” (Bernstein, 2000, p. 206) that emphasizes the *realization* of an agent, agency, discourse or practice. For an ‘ideological’ emotional principle, there is a *realization* of relations of power. The pedagogic practice possesses the “realization rule” (Bernstein, 2000, p. 17) for relations of power. This rule concerns appraisals of control that are high or low. It is directed towards stability, or “structure” (Lazarus, 1999, p. 13). For an

‘axiological’ emotional principle, there is a *realization* of relations of solidarity. The pedagogic practice possesses the “realization rule” (Bernstein, 2000, p. 17) for relations of solidarity. This rule is to do with appraisals of control that are graded. It is oriented towards change, or “process” (Lazarus, 1999, p. 13).

## 2. Internal and External Relations

In this section, I move towards a greater level of delicacy in the description of relations by taking internal and external relations into account. Classification and framing can have an “internal” and “external value” (Bernstein, 2000, p. 14). The internal value refers to classification and framing to do with relations within the pedagogic context (Bernstein, 2000). The external value refers to classification and framing to do with relations between the pedagogic context, and context external to it (Bernstein, 2000). For example: For *Figure 2.3.1-III* below, if the pedagogic context is ‘C’ internal relations apply to the relation between ‘A’ and ‘B’. On the other hand, if the pedagogic context is ‘A’ internal relations apply to the relation between ‘A<sub>1</sub>’, ‘A<sub>2</sub>’, ‘A<sub>3</sub>’ and A<sub>4</sub>’, whilst external relations pertain to the relation between ‘A’ and ‘B’. Internal and external relations for classification and framing reveal the manner in which a “whole” can be divided into “parts” (Lazarus, 1999, p. 22) which in turn can be divided into further parts. For an ‘ideological’ emotional principle emphasis is upon the ‘parts’. There is the processing of emotional information at a “general level” (Wranik, Feldman Barrett, & Salovey, 2007, p. 399), or macro level. For example, ‘A’ might be positively appraised, and ‘B’ negatively appraised (*Figure 2.3.1-III A*). This means the emotional practice has a macro orientation, the lens through which ‘reality’ is seen is single faceted. For an ‘axiological’ emotional principle significance is given to the ‘whole’. There is the processing of emotional information at a “specific level” (Wranik, Feldman Barrett, & Salovey, 2007, p. 399), or micro level. For example, ‘A’ might be positively *and* negatively appraised through the positive and negative appraisal of the parts (‘A<sub>1</sub>’, ‘A<sub>2</sub>’, ‘A<sub>3</sub>’, ‘A<sub>4</sub>’) that constitute the whole (‘A’). (*Figure 2.3.1-III B*).

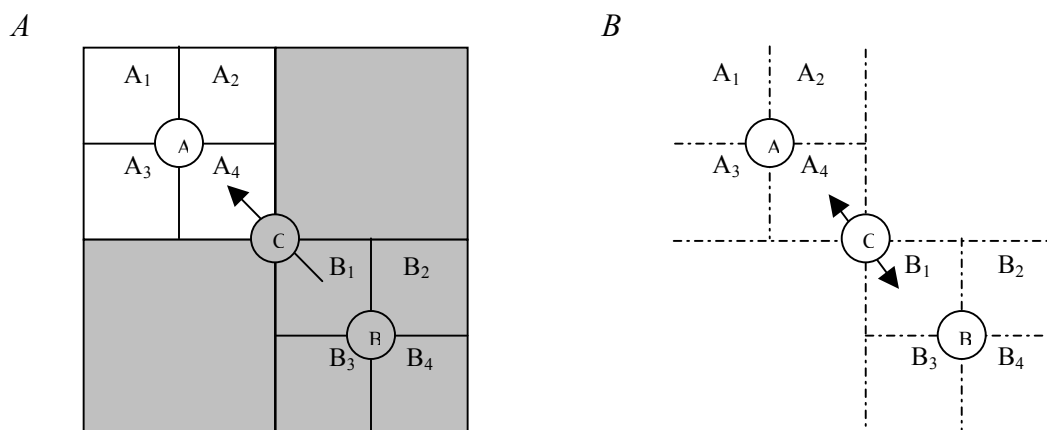


Figure 2.3.1-III The internal and external value for classification and framing

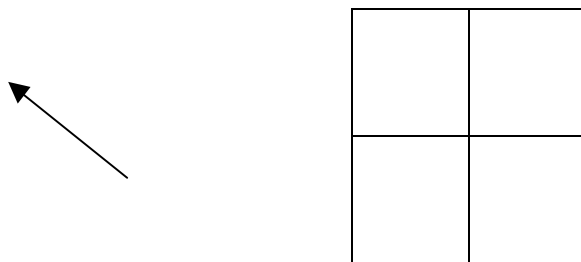
For the ‘*Summer Text*’ above, internal and external relations come to the fore through the labeling of the parts as shown in *Figure 2.3.1-III*: ‘A’ as the science classroom, ‘B’ as the school yard, ‘A<sub>1</sub>’ as ‘doing a science investigation’, ‘B<sub>1</sub>’ as ‘listening to the sounds of Summer’. Whereas internal relations pertain to ‘A<sub>1</sub>’ to ‘A<sub>4</sub>’, external relations pertain to ‘A<sub>1</sub>’ and ‘B<sub>1</sub>’. In the recognition and realization of ‘doing a science investigation’ and ‘listening to the sounds of Summer’ weak classification and framing come to mark the emotional practice and ‘reality’ takes on the form of a “prism” (Christie, Martin, Maton, & Muller, 2007, p. 255) (*Figure 2.3.1-IIIB*).

### 3. Primary, Secondary and Tertiary Relations

In this section, I address three levels at which relations operate beginning at the fundamental level of space and time. At a *primary level* relationships of space and time are integral to the building of a text (Bernstein, 2000). Space and time are examined in the literature as interconnected dimensions which come together in the co-articulation of meanings (Kress, Jewitt, Ogborn, & Tsatsarelis, 2001, see also Barker, 2001; Hargreaves, 2000, 2005; Lambie & Marcel, 2002). For this level, Bernstein (2000) states:

Everything from this level downwards will have a cognitive and cultural consequence. This level of specialization of time, text, and space marks us cognitively, socially and culturally. (p. 35)

In 2.2.1 I introduced value/ classification as a spatial concept, and control/ framing as a temporal concept (Bernstein, 2000). The spatial dimension of value can be depicted as a grid that occupies space on the page (*Figure 2.3.1-IV*). The temporal dimension of control can be illustrated using an arrow to suggest movement on the page (*Figure 2.3.1-IV*):



*Figure 2.3.1-IV* The interconnected dimensions of space and time in the co-articulation of meanings

In presenting the emotional practice as such I set out in this study to map out “*emotional geographies*” (Hargreaves, 2000, p. 815) in tracing the teachers’ movements in time, and through space. I am interested in the “physicality” (Lambie & Marcel, 2002, p. 231) of emotion as a teacher moves in time and through space subject to ever changing forces:

[Emotional geographies] consist of the spatial and experiential pattern of closeness and/ or distance in human interactions and relationships that help create, configure and colour the feelings and emotions we experience about ourselves, our world and each other (Hargreaves, 2000, p. 7). (Hargreaves, 2000, p. 815)

The level at which emotional information is processed has implications for a teacher’s movements. For an ‘ideological’ emotional principle (involving a macro level processing of emotional information) a “*typological*” (Lemke, 1998c, p. 1) perspective is adopted. For example: A person may appraise a space negatively, and disalign from this space (‘A<sub>4</sub>’ in *Figure 2.3.1-VA* below). In addition, a person may subsequently reappraise the space positively, and align back to the space once more (‘A<sub>4</sub>’ in *Figure 2.3.1-VB* below). In doing so, a person aligns or disaligns to a physical space.

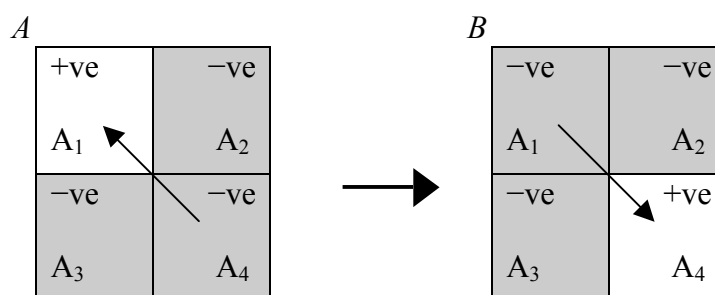


Figure 2.3.I-V Recontextualization (focus: macro level)

Bernstein (2000) refers to the movement from one space to another as “recontextualization” (p. 160). I indicate reappraisal in which there is a processing of emotional information at a general level as: reappraisal (focus: macro level), and recontextualization in which there is an alignment or disalignment to a space as: recontextualization (focus: macro level). For an ‘ideological’ emotional principle recontextualization brings ‘power’ to the fore:

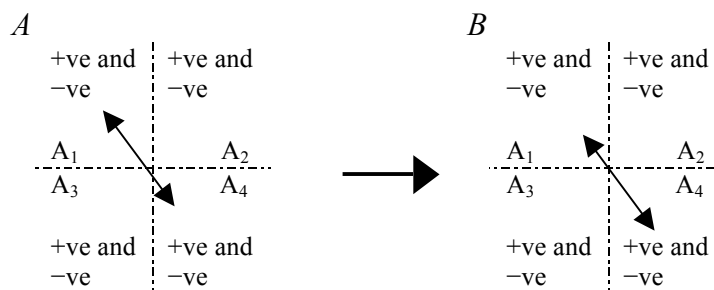
As the discourse moves from its original site to its new positioning as pedagogic discourse, a transformation takes place. The transformation takes place because every time a discourse moves from one position to another, there is a space in which ideology can play. No discourse ever moves without ideology at play. (Bernstein, 2000, p. 32)

As shown in Figure 2.3.I-V above, there are regulatory boundaries in terms of space for an ‘ideological’ emotional principle (Bernstein, 2000). In addition, there are punctuations in terms of time (Bernstein, 2000). In terms of time, the emphasis is on the future (Bernstein, 2000). I understand the emphasis to be on the future as the future is ‘known’ due to the orientation of the principle towards stability, or “structure” (Lazarus, 1999, p. 13).

For an ‘axiological’ emotional principle (involving a micro level processing of emotional information) a “*topological*” (Lemke, 1998c, p. 1) perspective is adopted. For example: A person may appraise and reappraise a space positively and negatively, and in so doing come to increasingly, or decreasingly, align to a space (e.g. ‘A<sub>1</sub>’ in Figure 2.3.I-VIA and



*B* below). A person's movement can be described in terms of alignment-disalignment to a space.



*Figure 2.3.1-VI* Recontextualization (focus: micro level)

I indicate reappraisal in which there is a processing of emotional information at a specific level as: reappraisal (focus: micro level), and recontextualization in which there is an alignment-disalignment to a space as: recontextualization (focus: micro level). For an 'axiological' emotional principle recontextualization brings 'solidarity' to the fore as a person negotiates degrees of alignment or disalignment to spaces, and those who occupy these spaces. As shown in *Figure 2.3.1-VI* above, there is the absence of regulatory boundaries in terms of space for an 'axiological' emotional principle (Bernstein, 2000). In addition, time is not explicitly punctuated (Bernstein, 2000). In terms of time, the emphasis is on the present tense (Bernstein, 2000). I understand the present tense to be of importance as the future is less certain due to the orientation of the principle towards change, or "process" (Lazarus, 1999, p. 13).

At a *secondary level*, ideational meaning is foregrounded. Space is transformed into a specific context, time into "age stages", and text into a specific content (Bernstein, 2000, p. 35). At a *tertiary level*, interpersonal meaning is foregrounded. Context is transformed into transmission, age into acquisition, and content into evaluation (Bernstein, 2000). Bernstein (2000) brings the three levels together as shown in *Figure 2.3.1-VII* below.

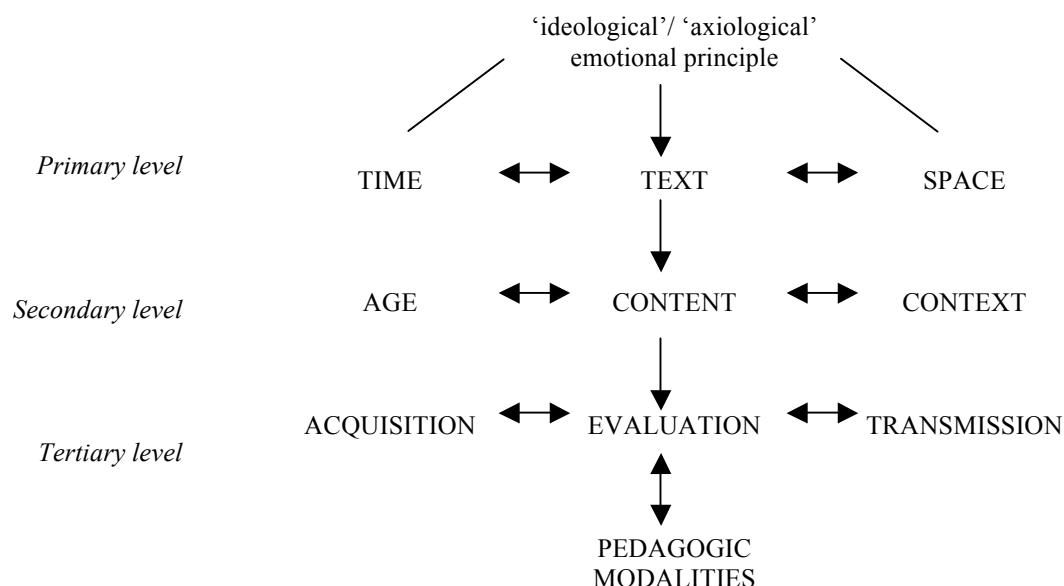


Figure 2.3.1-VII The emotional practice (Adapted from Bernstein, 2000, p. 36)

In sum, three levels of relations for the emotional practice are identified in this section, namely: primary, secondary and tertiary. These are shown as horizontal relations in *Figure 2.3.1-VII*. In terms of vertical relations there are the three metafunctions discussed in 2.1.1: the textual, ideational and interpersonal (the central column of *Figure 2.3.1-VII*). In addition, there are those relations that concern control (the left-hand column) and value (the right-hand column). I examine the realization of relations through evaluation, and pedagogic modalities in 2.3.2 and 2.3.3, respectively.

For the ‘*Summer Text*’ above, I examine the remainder of the text to illustrate relationships of space and time. In the text, a learner expresses her displeasure when she is home sick, and it is sunny outside. Whereas the outside is positively appraised, the inside is evaluated negatively. One might imagine the learner staring outside through the window at her friends. Whereas they are able to bask in the sun, she is unable to do so. Whereas her friends are visible, she is hidden. The learner is “stuck inside” [LTxxi275], her movements restricted. As a result, the “*law of comparative feeling*” comes to the fore: “*The intensity of emotion depends on the relationship between an event and some frame of reference against which the event is evaluated*” (Frijda, 1988, p. 353). The learner’s appraisals elicit feelings, intense feelings. In contrast to this scenario, the learner offers an

alternative. One in which it is rainy outside. One might imagine that as the rain clouds come over, and the rain drops begin to pelt downwards, so her friends rush inside to join her, leaving no more comparisons to make between those inside and outside.

In 2.3.1 I looked at relations within, and between. For relations between, the presence or absence of regulatory boundaries is indicated through strong, or weak classification. For relations within, ‘silences’, or ‘presences’, for categories is revealed through strong, or weak framing. For relations here, I extended upon Bernstein’s notion of a recognition rule for classification, and realization rule for framing, by making a distinction between one that is oriented towards power, and another solidarity.

I also considered internal and external relations. The notion of internal and external value for classification and framing indicates relations within, and between the pedagogic context, and external context. For the notion of an internal and external value, I indicated the manner in which this conception of relations for the pedagogic practice is linked to the level at which emotional information is processed revealing a macro and micro orientation for the emotional practice.

I examined relations at a primary, secondary and tertiary level. Primary relations are seen to translate into secondary, and then tertiary relations, beginning at the level of space and time, and finally revealing the transmission and acquisition particular to the transmission context. For relations here, I extended upon Bernstein’s notion of recontextualization distinguishing between recontextualization (focus: macro level), and recontextualization (focus: micro level).

Lastly, I examined the operation of an ‘ideological’ and ‘axiological’ emotional principle for these relations. In sum, for an ‘ideological’ emotional principle relations between are characterized by strong classification, and relations within, strong framing. Internal and external relations reveal a macro orientation for the emotional practice in which emotional information is processed at a general level. Primary, secondary and tertiary relations brings the notion of recontextualization to the fore, where there is an alignment

or disalignment to space from an external perspective. For an ‘axiological’ emotional principle relations between are characterized by weak classification, and relations within, weak framing. Internal and external relations highlight a micro orientation for the emotional practice in which emotional information is processed at a specific level. Primary, secondary and tertiary relations reveal the notion of recontextualization, where there is an alignment-disalignment to space from an external perspective.

In the next section I deal with the realization of relations, marked by strong and weak classification and framing, through different emotion regulation strategies.

### **2.3.2 The Realization of Relations for Different Emotion Regulation Strategies**

In 2.3.2 I examine the realization of relations introduced in 2.1.2 through emotion regulation strategies addressed in the literature. I consider the realization of relations at an individual level in terms of emotional experience and outer expression, as well as the realization of relations at a social level bringing the relation between one individual and another into view. The emotion regulation strategies are examined as they pertain to an ‘ideological’ and ‘axiological’ emotional principle.

I draw upon Gross’ (1998) model of emotion regulation, and Bernstein’s (2000) sociological model, to outline different emotion regulation strategies and to consider the realization of relations through these strategies. Gross’ (1998) model of emotion regulation involves strategies oriented at those stages in the emotion process before an emotion becomes fully activated (antecedent-focused), and those oriented at the stage of the emotion response (response-focused). In brief, antecedent-focused strategies include: (1) Aligning to, or disaligning from, people, places, objects (situation selection); (2) Active efforts to directly alter an activity (situation modification); (3) The focusing of attention towards people, places, objects (attentional deployment); and (4) Altering an appraisal of value, or control, concerning an activity (cognitive change) (Gross, 1998).

Response-focused strategies involve the modulation of physiological, behavioural, and experiential emotion responses (response modulation) (Gross, 1998; see also Gross & Thompson, 2007; John & Gross, 2007).

Although I look at each of these strategies, I foreground suppression (a response-focused strategy), and reappraisal (an antecedent-focused strategy involving cognitive change), due to the attention they receive in the literature. Suppression and reappraisal are two major emotion regulation strategies (Loewenstein, 2007), and are examined in the literature in terms of their implications for relations (Bernstein, 2000; Butler, Egloff, Wilhelm, Smith, Erickson, & Gross, 2003; Gross & John, 2003; John & Gross, 2004).

Gross' (1998) model is a two-factor model that makes a distinction between emotion generation and regulation (Mesquita & Albert, 2007). Following Mesquita and Albert (2007) I do not make a distinction between emotion regulation and generation for an 'ideological' and 'axiological' emotional principle, nor for the emotion regulatory strategies that pertain to these principles. The conceptual language of emotion regulation is recognized in the literature to be suited to both emotion regulation and generation (Campos, Frankel, & Camras, 2004; Mesquita & Albert, 2007).

### **1. The Realization of Relations Marked by Strong Classification and Framing**

An 'ideological' emotional principle favours suppression more, and reappraisal less, than an 'axiological' emotional principle. The emotion regulation strategy of suppression realizes *relations marked by strong classification at an individual level*. Efforts at suppression (John & Gross, 2004), or psychological defenses<sup>3</sup> (Bernstein, 2000), insert a dislocation between inner experience and outer expression:

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<sup>3</sup> Emotion regulation and defenses are interrelated constructs that come under the broader category of affect regulation (Gross & Thompson, 2007). Gross and Thompson (2007) define defenses as typically involving the regulation of aggressive and sexual impulses, and their associated negative emotion experience. It remains an open question as to whether the regulatory processes involved in emotion regulation and defenses are different (Gross & Thompson, 2007).

Within the individual, the insulation becomes a system of psychic defenses against the possibility of the weakening of the insulation, which would then reveal the suppressed contradictions, cleavages and dilemmas. So the internal reality of insulation is a system of psychic defenses to maintain the integrity of a category. (Bernstein, 2000, p. 7)

A dislocation between inner experience and outer expression has cognitive, as well as affective consequences for an individual. How does using suppression relate to cognitive load? Suppression is reported to increase cognitive load as cognitive resources are taken up by the multitasking required to suppress emotional behaviour (Butler, Egloff, Wilhelm, Smith, Erickson, & Gross, 2003; Gross & John, 2003; John & Gross, 2004). And how does using suppression relate to affect? Suppression is shown to have implications for the experience and expression of feelings, and appraisals to do with control involved in the emergence of feelings [Section 2.2.1]. The frequent use of suppression also has consequences for an awareness of feelings, and for the voluntary regulation of feelings. I examine each of these aspects in turn below:

***The experience and expression of feelings.*** For negative emotion experience, suppressors experience greater negative emotion than nonsuppressors (Gross & John, 2003; John & Gross, 2004). Suppression does not diminish (nor increase) momentary negative emotion experience (John & Gross, 2004). However, suppressors experience greater negative emotion due to the association of suppression with feelings of inauthenticity:

Our results were clear: individuals using suppression were more likely to experience negative emotions than were nonsuppressors. Most important, this link between suppression and negative emotion experience was fully mediated by inauthenticity; that is, the correlation disappeared when the effect of inauthenticity was controlled. (John & Gross, 2004, p. 1316)

For negative emotion expression, suppressors succeed in not expressing any more negative emotion than those who seldom employ suppression (Gross & John, 2003; John & Gross, 2004). The suppressor's efforts though are noticed by their peers (Gross & John, 2003). In terms of positive emotion experience and expression, suppressors

experience and express lesser positive emotion than nonsuppressors (Gross & John, 2003; John & Gross, 2004).

***Appraisals concerning control.*** Suppressors have lower levels of environmental mastery in relation to those who seldom use suppression (Gross & John, 2003). Low perceived control is associated with strategies targeted at the regulation of negative emotional reactions to a stressor (Boekaerts, 2007; Lazarus, 1999). These self-protective strategies are referred to in the literature as emotion-focused coping, or ego-defensive coping (Lazarus, 1999; see also Boekaerts, 2007; Lazarus, 1991). Emotion-focused coping strategies include: giving up, cheating, taking a deep breath, crying, becoming aggressive, entering a state of denial, using avoidance behaviour, soliciting emotional support (Boekaerts, 2007). As a group these strategies direct personal causes of failure away from internal attributions of ability toward external causes (Covington, 1984).

***The awareness of feelings.*** Suppressors tend to evaluate emotions negatively (Gross & John, 2003), and are less emotionally aware (Gross & John, 2003; John & Gross, 2004; John & Gross, 2007). The awareness of an emotion is recognized to be important in enabling a person to engage in voluntary regulatory activity (Stegge & Meerum Terwogt, 2007). A low degree of emotional awareness results from a “shutting down” (John & Gross, 2004, p. 1314) of emotions. There is an absence of focal attention (John & Gross, 2004; Lambie & Marcel, 2002, p. 234) whose operation synthesizes different kinds of representations (Lambie & Marcel, 2002). This results in a low degree of differentiation (Gottman, Katz, & Hooven, 1997):

*Awareness of one's own emotion* is being able to talk about the emotion in a differentiated manner (differentiating various types and intensities of the emotion)...[the subject] answers questions easily, without hesitation or confusion, talks at length about the emotion, and shows interest and excitement about this emotion. (Gottman, Katz, & Hooven, 1997, p. 48)

I explain the role of focal attention to emotional awareness further using *Figure 2.3.2-I* below:

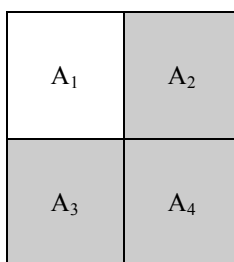


Figure 2.3.2-I The role of focal attention in emotional awareness

In Figure 2.3.2-I above there is a “shutting down” (John & Gross, 2004, p. 1314) of emotions with respect to ‘A<sub>2</sub>’, ‘A<sub>3</sub>’ and ‘A<sub>4</sub>’ (represented through shading) in the dislocation between the ‘inner’ (‘A<sub>2</sub>’, ‘A<sub>3</sub>’ and ‘A<sub>4</sub>’) and ‘outer’ (‘A<sub>1</sub>’). There is the absence of focal attention towards ‘A<sub>2</sub>’, ‘A<sub>3</sub>’ and ‘A<sub>4</sub>’ where focal attention is necessary for bringing together different kinds of representations, here labeled as ‘A<sub>1</sub>’, ‘A<sub>2</sub>’, ‘A<sub>3</sub>’ and ‘A<sub>4</sub>’. In bringing ‘A<sub>1</sub>’ to the fore there is the absence of differentiation<sup>4</sup>.

**The operation of relations at a social level.** The emotion regulation strategy of suppression realizes *relations marked by strong classification at a social level* as well. Suppression inserts a dislocation, or disrupts the relationship between the individual (the ‘inner’) and society (the ‘outer’). As the insulation that forms the principle of classification faces inwards to order within the individual, so too does it face outwards to social order (Bernstein, 2000):

...the insulation which creates the principle of the classification has two functions: *one external to the individual, which regulates the relations between individuals* [italics added], and another function which regulates relations within the individual...[E]xternally, the classificatory principle creates order, and the contradictions, cleavages and dilemmas which necessarily inhere in the principle of a classification are suppressed by the insulation. (Bernstein, 2000, p. 7)

<sup>4</sup> Lambie and Marcel (2002) distinguish between first-order phenomenal experience, and second-order awareness. Whereas the phenomenological aspect of an emotion refers to “what it’s like”, second-order awareness focuses on “*how we feel*”, “*why we feel the way we feel*” and “*what we can do about it*” (Stegge and Meerum Terwogt, 2007, p. 271). Second-order awareness is of interest here. It is underlain by focal attention whose operation is marked by synthesis (Lambie & Marcel, 2002).



A dislocation in terms of the relation between one person, and another, has social consequences. Suppression disrupts the flow of information, or emotional content, across communicative channels (Butler, Egloff, Wilhelm, Smith, Erickson, & Gross, 2003). A suppressor is less likely to share emotions due to the inhibition of emotional expressivity (Butler, Egloff, Wilhelm, Smith, Erickson, & Gross, 2003; Gross & John, 2003; John & Gross, 2004). If a suppressor is less emotionally aware (Gross & John, 2003), they are also less able to respond to the feelings of others (Gottman, Katz, & Hooven, 1997). The emphasis on “distance” (Bernstein, 2000, p. 156) brings ‘power’ to the fore. At a social level, the ‘inner’ and ‘outer’ can be representative of one teacher, and another. It can be representative of the teacher, and learner. It can also be representative of one department (e.g. the science department), and another:

...in this system, the staff cannot relate to each other in terms of their intrinsic function, which is the reproduction of *pedagogic discourse*. Where the lines of communication between staff are established by a system of this kind, there will be *weak relations between staff* [italics added] with respect to pedagogic discourse, as each is differently specialized. (Bernstein, 2000, p. 10)

In addition to the realization of relations marked by strong classification through suppression, there are other emotion regulation strategies favoured by an ‘ideological’ emotional principle. These include: (1) Attentional deployment: An ‘ideological’ emotional principle possesses a gaze that is marked by a “sharp” focus (Martin & White, 2005, p. 138); (2) Situation selection: An ‘ideological’ emotional principle is characterized by an alignment or disalignment to a space [Section 2.3.1]; and (3) Reappraisal (focus: macro level): An ‘ideological’ emotional principle involves macro level processing of emotional information [Section 2.2.1]. I indicate reappraisal in which there is a processing of emotional information at a general level as: reappraisal (focus: macro level) [Section 2.3.1]. (Following Mesquita and Albert (2007) I consider initial appraisal and cognitive change as subject to the same forces.). I indicate the emotion regulation strategies favoured by an ‘ideological’ emotional principle in *Figure 2.3.2-II* below. I lay out the emotion regulation strategies according to whether the efforts engaged in by the individual indicate a positive or negative valenced response:

1. Attentional deployment 2. Situation selection 3. Cognitive change: reappraisal as +ve 4. Outer expressive behaviour for suppression	
	5. Cognitive change: reappraisal as -ve

*Figure 2.3.2-II* The emotion regulation strategies favoured by an ‘ideological’ emotional principle

## 2. The Realization of Relations Marked by Weak Classification and Framing

I understand that an ‘axiological’ emotional principle favours reappraisal more, and suppression less, than an ‘ideological’ emotional principle due to the manner in which an ‘axiological’ emotional principle involves a micro level processing of emotional information [Section 2.2.1]. I indicate reappraisal in which there is a processing of emotional information at a micro level as: reappraisal (focus: micro level) [Section 2.3.1]. The emotion regulation strategy of reappraisal (focus: micro level) realizes *relations marked by weak classification at an individual level*. This forms an internal reality marked by multidimensionality, depicted metaphorically in the following quote:

In every hair there are an infinite number of lions, and in addition all the single hairs, together with their infinite number of lions, in turn enter into a single hair. In this way the progression is infinite, like the jewels in Celestial Lord Indra’s net. (Fa-Tsang, T’ang Dynasty, as quoted in Collins, 1998, p. v)

The habitual use of reappraisal has cognitive, as well as affective consequences for an individual. In the first instance, reappraisal, in contrast to suppression, does not consume cognitive resources to suppress ongoing emotion expressive behaviour (Gross & John,

2003). This is reflected in experimental studies as reappraisal is shown to result in better recall of social information, presented during the time in which the person was engaging in emotion regulation (John & Gross, 2004). In terms of affective consequences reappraisal, as for the emotion regulation strategy of suppression, is shown to have implications for the experience and expression of feelings, and appraisals to do with control involved in the emergence of feelings [Section 2.2.1]. The frequent use of reappraisal also has consequences for an awareness of feelings, and for the voluntary regulation of feelings. I address each of these aspects below:

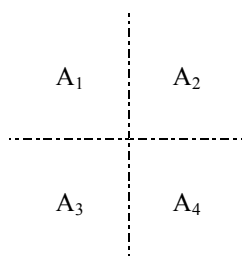
***The experience and expression of feelings.*** Reappraisers experience and express lesser negative emotion, and they also experience and express greater positive emotion than individuals who regulate their emotions through reappraisal less frequently (Gross & John, 2003; John & Gross, 2004).

***Appraisals concerning control.*** Chronic reappraisers have a greater sense of control with regard to their immediate environments (Gross & John, 2003). In referring to the reappraiser's greater sense of efficacy they state: "[T]he way reappraisers take charge of their emotional reactions appears connected to a more global sense that they are in charge of their environments" (p. 359). High perceived control is associated with strategies targeted at altering the stressor (Boekaerts, 2007; Lazarus, 1999). These strategies are referred to in the literature as problem-focused coping (Lazarus, 1999; see also Boekaerts, 2007; Lazarus, 1991). For example: In the extract below the teacher alters the cause of her distress, the Year 9 science exam paper, by changing the order of the questions:

I should have done some [report comments] this morning, and I didn't do any. I made up the Year 9 science exam instead, for biology, because it gave me a lot of pleasure to rework it, make it better for kids to look at. I hated the order it was in. As I said to [name], I've tried to change it all around, and make it more interesting. And yeah, just tidy it up. [ITii122]

***The awareness of feelings.*** Gross and John's (2003) research findings show a negative relation for suppression and attention to feelings, but no clear positive or negative relation

for reappraisal and attention to feelings. A greater degree of emotional awareness for a chronic reappraiser is suggested though by the definition for emotional awareness provided by Gottman, Katz, and Hooven (1997). They define a person who talks about their emotions in a differentiated manner, identifying various intensities for an emotion to be emotionally aware. A person who employs the emotion regulation strategy of reappraisal (focus: micro level) processes emotional information at a specific level upscaling or downscaling feelings to varying degrees. A greater degree of emotional awareness is also suggested by the definition for emotional awareness provided by Lambie and Marcel (2002). They define emotional awareness to be underlain by focal attention whose operation synthesizes different kinds of representation. Reappraisal (focus: micro level) realizes relations between “parts” (Lazarus, 1999, p. 22) marked by weak classification giving significance to the “whole” (Lazarus, 1999, p. 22). This can be illustrated using *Figure 2.3.2-III* below:



*Figure 2.3.2-III* The role of focal attention in emotional awareness

In *Figure 2.3.2-III* above there are ‘presences’ in the form of emotional expression with regards to ‘A<sub>1</sub>’, ‘A<sub>2</sub>’, ‘A<sub>3</sub>’ and ‘A<sub>4</sub>’ (represented through an absence of shading). There is the direction of focal attention towards ‘A<sub>1</sub>’, ‘A<sub>2</sub>’, ‘A<sub>3</sub>’ and ‘A<sub>4</sub>’ where the operation of focal attention brings together different kinds of representations, here labeled as ‘A<sub>1</sub>’, ‘A<sub>2</sub>’, ‘A<sub>3</sub>’, and ‘A<sub>4</sub>’. In bringing ‘A<sub>1</sub>’ to ‘A<sub>4</sub>’ to the fore there is the presence of differentiation. Emotional awareness is recognized to be important in enabling a person to engage in voluntary regulatory activity (Stegge & Meerum Terwogt, 2007).

***The operation of relations at a social level.*** The emotion regulation strategy of reappraisal (focus: micro level) brings about *relations marked by weak classification at a*

*social level* as well. There is weak classification in terms of the relation between the individual (the ‘inner’) and society (the ‘outer’). Weak classification in terms of the relation between the individual and society has social consequences. Reappraisal (focus: micro level) enables the flow of information, or emotional content, across communicative channels [Section 2.3.1]. Reappraisers are more likely to engage in the social sharing of both positive and negative emotions (Gross & John, 2003; John & Gross, 2004). To build bridges across communicative channels may necessitate that reappraisers do not direct these negative emotions toward the ‘outer’:

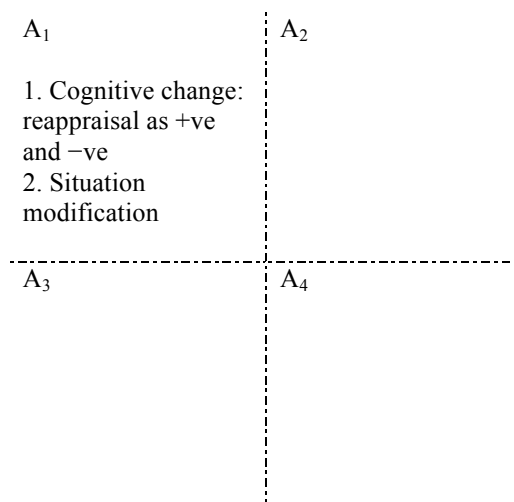
...one can socially share emotions with a social partner without expressing those emotions directly to the partner. Conversely, one can express emotions behaviourally without social sharing. This distinction is important, as it may be that sharing negative emotions without directing them toward the partner is an important element of the reappraisers’ social success. (John & Gross, 2004, p. 1318-1319)

The emphasis on “intimacy” (Bernstein, 2000, p. 156) that stems from the social sharing of emotions brings ‘solidarity’ between the ‘inner’ and ‘outer’ to the fore. At a social level, the ‘inner’ and ‘outer’ can be representative of one teacher, and another. It can be representative of the teacher, and learner. It can also be representative of one department (e.g. the science department), and another:

A model like this is highly vulnerable because communications from the outside are less controlled. Its identities are not established by the organizational structure because of the weak classification, but the staff are part of a strong social network (or it *must* be strong if the transmission is to work) which should be concerned with the integration of difference. (Bernstein, 2000, p. 11)

In addition to the realization of relations characterized by weak classification through reappraisal (focus: micro level), the emotion regulation strategy of situation modification is also favoured by an ‘axiological’ emotional principle. Situation modification can be illustrated in terms of time and space. An ‘axiological’ emotional principle is characterized by an alignment-disalignment to a physical space [Section 2.3.1]. In aligning-disaligning to a space (e.g. ‘A<sub>1</sub>’ in *Figure 2.3.2-IV* below) the reality of the person-environment relationship, or situation, changes. I indicate the emotion regulation

strategies favoured by an ‘axiological’ emotional principle in *Figure 2.3.2-IV* below. The efforts engaged in indicate a valenced response that operates along a cline construing greater or lesser degrees of positivity or negativity, and constitute relations marked by weak classification.



*Figure 2.3.2-IV* The emotion regulation strategies favoured by an ‘axiological’ emotional principle

In 2.3.2 I considered the realization of relations marked by strong and weak classification and framing through different emotion regulation strategies, at an individual and social level. I indicated those strategies favoured by an ‘ideological’ and ‘axiological’ emotional principle. To do this required making a distinction between reappraisal (focus: macro level), and reappraisal (focus: micro level). For an ‘ideological’ emotional principle these strategies include: suppression, attentional deployment, situation selection, reappraisal (focus: macro level). For an ‘axiological’ emotional principle they include: reappraisal (focus: micro level), situation modification.

I also addressed the cognitive, affective and social consequences of chronic suppression and reappraisal. To summarize, suppressors have poorer recall of social information presented during the use of the strategy. They experience greater negative emotion, and experience and express lesser positive emotion. They also have lower levels of

environmental mastery, and are less emotionally aware. At a social level, suppression places an emphasis on ‘distance’. Reappraisers have better recall of social information presented during the use of the strategy. They experience and express lesser negative emotion, experience and express greater positive emotion, and have greater levels of environmental mastery. Weak classification for chronic reappraisers suggests greater emotional awareness due to the synthesis of different kinds of representations through focal attention. At a social level, reappraisal places an emphasis on ‘intimacy’.

In the next section I outline the formation of relations marked by strong and weak classification and framing through different pedagogic modalities.

### **2.3.3 The Realization of Relations for Different Pedagogic Modalities**

In 2.3.3 I examine the realization of relations introduced in 2.1.2 through different pedagogic modalities. Pedagogic modalities that realize relations marked by strong classification and framing are contained within an ‘ideological’ emotional principle. They include a “visible” pedagogy (Bernstein, 2000, p. 14), “performance” model (Bernstein, 2000, p. 45), or “powerful” pedagogy (McWilliam, 1996, p. 6). Pedagogic modalities that bring relations marked by weak classification and framing into fruition are contained within an ‘axiological’ emotional principle. An “invisible” pedagogy (Bernstein, 2000, p. 14), “competence” model (Bernstein, 2000, p. 45), or “pedagogy of discomfort” (Boler, 1999, p. 176) is of significance here.

I adopt Bernstein’s (2000) concept of a “visible” and “invisible” (p. 14) pedagogy in this section to organize and examine the language of description for these modalities. A ‘visible’ and ‘invisible’ pedagogy have visible, as well as invisible components. For a ‘visible’ pedagogy those components associated with an ideal are visible, whereas for an ‘invisible’ pedagogy those associated with an ideal are invisible. This means that wherever there is pedagogy there are hierarchical relations; the language of description either reveals these relations (a position advocated by Bernstein), or masks them:

To me, wherever there is pedagogy there is hierarchy. What is interesting, it's the language of description that we use, because the language of description masks hierarchy, whereas the language of description should attempt to sharpen its possibility of appearance. (Bernstein, as quoted in Muller, 2007, p. 65)

It also means that wherever there is pedagogy there are horizontal relations, which the language of description either reveals, or masks. I unpack this language of description below. Using those aspects that are common to both of these modalities outlined in *Figure 2.3.3-I* and *II* below, I do so by referring to categories, classification and framing, as well as components pertaining to framing, namely interpersonal relations, evaluation criteria and rate of acquisition, or pacing.

	<i>Visible</i>	<i>Invisible</i>
<i>Category</i>	Ideal	Ideal-non-ideal
<i>Classification</i>	High/ low value	High-low value
<i>Framing</i>	High/ low control	High-low control
<i>Interpersonal relations</i>	Hierarchical	Horizontal
<i>Evaluation criteria</i>	General	Specific
<i>Rate of acquisition</i>	High/ low	High-low

*Figure 2.3.3-I* A “visible” pedagogy (Adapted from Bernstein, 2000, p. 109)

	<i>Visible</i>	<i>Invisible</i>
<i>Category</i>	Ideal-non-ideal	Ideal
<i>Classification</i>	High-low value	High/ low value
<i>Framing</i>	High-low control	High/ low control
<i>Interpersonal relations</i>	Horizontal	Hierarchical
<i>Evaluation criteria</i>	Specific	General
<i>Rate of acquisition</i>	High-low	High/ low

*Figure 2.3.3-II* An “invisible” pedagogy (Adapted from Bernstein, 2000, p. 109)

### 1. Categories: Agents, Agencies, Discourses and Practices

**Visible.** The “ideal” (Christie, 2002, p. 162; see also Christie, 2001) is foregrounded for this pedagogic modality. It is “visible” (Bernstein, 2000, p. 109). The ideal can include



agents, agencies, discourses, practices. Most notably, in this study, it includes feelings. As there is strong classification between the ideal and non-ideal in this modality, the ideal is oriented towards stability. Classification reveals itself in the space of the classroom in terms of polarization. For example, an ideal, such as the teacher, stands near the front of the classroom separate from the learners. The teacher avoids displaying inconsistent behaviour that, as noted by Lortie (1975), may be readily observed: “The teacher must handle these various aspects of leadership in a visible situation where inconsistencies are quickly observed by students” (p. 152).

**Invisible.** The ideal-non-ideal (i.e. a category considered to varying degrees to be ideal, or as ideal *and* non-ideal) is given significance here. This means that the ideal is “invisible” (Bernstein, 2000, p. 109). As there is weak classification between the ideal and non-ideal a category is ambiguous. The boundaries that give definition to it are oriented towards change, they are flexible. Boler (1999) refers to this pedagogic modality as a “pedagogy of discomfort” (p. 176), and appraises the modality to be ethical due to the “new sense of interconnection” (p. 200) gained through the expansion of the discourse to other value positions [Section 2.1.2]: “An ethical aim of a pedagogy of discomfort is willingly to inhabit a more ambiguous and flexible sense of self” (Boler, 1999, p. 176).

## 2. Classification

**Visible.** Appraisals to do with a high or low degree of value are visible for this modality, and attention is deployed towards a model or ideal text. The strong boundaries that direct a person’s gaze bring this modality, referred to by McWilliam (1996) as a “powerful pedagogy” (p. 6), into fruition. The mutual interlocking of the teacher and high interest learner’s gaze, during transmission and acquisition, is depicted in the excerpt below. The excerpt comes from a narrative recounting the involvement of a teacher within the life of Zora Neale Hurston:

I do not know whether something in my attitude attracted his attention, or whether what I had done previously made him direct the stream at me. Certainly every time he lifted his eyes from the page, he looked right into my eyes. It did not make me see him particularly, but it made me see the poem. (Zora Neale Hurston, as quoted in McWilliam, 1996, p. 6)

The direction of attentional deployment, or the selection of communication, is established by the “predetermined authority” (Boler, 1999, p. 95) of the teacher, or school. The selection of communication is a model text for which the past construction thereof remains invisible (Bernstein, 2000). The text signifies the past, and makes the future visible (Bernstein, 2000). As the text is an ideal, the acquirer (e.g. learner), in relation to the acquirer for an invisible pedagogy, has relatively less control over spatial and temporal arrangements (Bernstein, 2000), a position advanced by Christie (2002):

I have remarked already the significance of the ways in which teachers define the temporal: it is their right to determine those times at which actions will be carried out, just as it is their right to determine the spatial arrangements by which students will act. (p. 82)

**Invisible.** Appraisals concerning a high-low degree of value (i.e. appraisals that operate on a cline) are given prominence, and attention towards a model text is characterized here by a “soft” focus (Martin & White, 2005, p. 138). As the selection of communication is ideal *and* non-ideal, the acquirer (e.g. learner), in relation to the acquirer for a visible pedagogy, has relatively more control over the selection of communication (Bernstein, 2000). Lemke (n.d.a) argues for such a construal of young learners as decision-makers in the development of a science curriculum:

If we do not design science education for our students as if their desires and preferences matter, is it not because we have been taught to see students, even those who are biologically adult (at age 12 for most today), or with many legal rights in progressive societies such as Spain (at age 15), as mysteriously infantile, irresponsible, and incompetent? (p. 7)

The “*inscribed habits of (in)attention*” (Boler, 1999, p. 180) that outline, and provide definition to a model text are broken as the boundaries that direct a person’s gaze become pliable, malleable, flexible. The emphasis is on the present tense (Bernstein, 2000) in the

formation of a text, and time no longer constructs a future (Bernstein, 2000). The negotiation of a relationship of alignment-disalignment to the worth of a text necessitates losses, as well as gains, to varying degrees. Feelings are elicited by these changes in line with the “*law of change*”<sup>5</sup> (Frijda, 1988, p. 353):

To “break” these [inscribed] habits [of (in)attention] that constitute the “very structure of the self” necessarily faces one with *fears* [italics added] of loss, both felt losses (of personal and cultural identities) and literal losses. (Boler, 1999, p. 193)

### 3. Framing

**Visible.** Appraisals to do with a high or low degree of control are brought to the fore in this pedagogic modality. The act of formulating an appraisal of control involves the public display, or “performance” (Bernstein, 2000, p. 48), of an ideal. There is comparison, or “social comparison” (Pekrun, Frenzel, Goetz, & Perry, 2007, p. 32), with respect to this standard. This elicits strong differences in interpersonal perceptions involving either high or low ability ascriptions. The appraisal of their own ability by six primary school headteachers, in Hayes’ (1996) study of the affective aspects of primary headship, captures this particular mode:

...they [the headteachers] felt good about themselves only when they did everything well, but the strain of doing everything well reduced the extent to which they experienced a sense of self-esteem. (p. 7)

**Invisible.** Appraisals concerning a high-low degree of control (i.e. appraisals that operate on a cline) are given prominence here. The act of formulating an appraisal of control involves lengthy communication on an individual basis (Bernstein, 2000). (There is an “individualistic” (Pekrun, Frenzel, Goetz, & Perry, 2007, p. 32) orientation.). The communication is lengthy due to the micro level processing of emotional information that highlights the “competence development” (Bernstein, 2000, p. 47) of the acquirer. As

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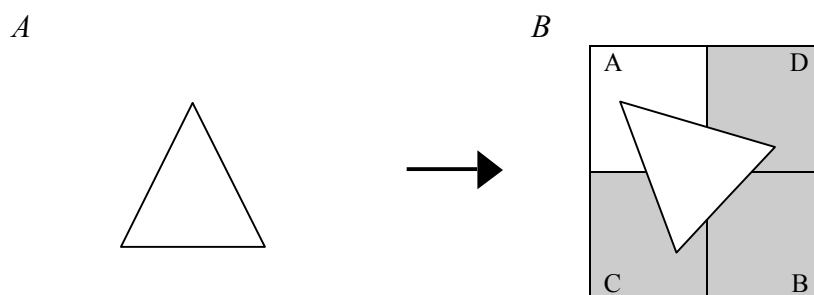
<sup>5</sup> The “*law of change*”, provided by Frijda (1988), states “*Emotions are elicited not so much by the presence of favourable or unfavourable conditions, but by actual or expected changes in favourable or unfavourable conditions*” (p. 353).

there is a “process focus” (Ames, 1984, p. 201) for control, effort, rather than ability, is brought to the fore<sup>6</sup>.

#### 4. Interpersonal Relations

**Visible.** Interpersonal relations that are hierarchical receive prominence for this modality, so that “stratification displaces differences between acquirers” (Bernstein, 2000, p. 45). Drawing upon Bernstein (2000), hierarchical relations can be depicted as shown in *Figure 2.3.3-III A* below. This can be overlaid with the depiction of the emotional practice, introduced in 2.1.1. *Figure 2.3.3-IIIB* highlights the hierarchical relation between categories where ‘A’ is at the tip of the pyramid, and ‘B’ at the base. The visibility, or “very existence” (Boler, 1999, p. 160), of ‘A’ is dependent on the invisibility of ‘B’, and ‘B’ serves as a source of motivation for ‘A’ (Ames, 1984):

...I want to argue that the crucial space which creates the specialization of the category – in this case the discourse – is not internal to that discourse but is the space between that discourse and another. In other words, A can only be A if it can effectively insulate itself from B. In this sense, there is no A if there is no relationship between A and something else. (Bernstein, 2000, p. 6)

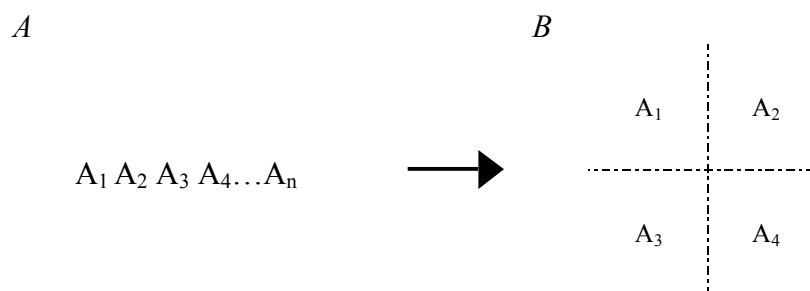


*Figure 2.3.3-III* Hierarchical relations between categories (Adapted from Bernstein, 2000, p. 161)

<sup>6</sup> The conception of an individualistic goal structure as it is used in this study shares with other conceptions the emphasis that is given to competence development through a focus on “task” (Nicholls, 1984, p. 47), or “effort” (Ames, 1984, p. 199). It departs from other interpretations in that it does not emphasize competition against an external standard (Covington, 1984). It also does not construe effort as a resource to be valued in and of itself in line with a Protestant ethic (Ames, 1984).

**Invisible.** Interpersonal relations that are horizontal are visible for this modality, so that “differences between displaces stratification of acquirers” (Bernstein, 2000, p. 45).

Drawing upon Bernstein (2000), horizontal relations can be depicted as shown in *Figure 2.3.3-IVA* below. As for hierarchical relations above, this representation can also be overlaid with the depiction of the emotional practice, discussed in 2.1.1. *Figure 2.3.3-IVB* highlights the horizontal relation between categories for this particular pedagogic modality. ‘A<sub>1</sub>’ to ‘A<sub>4</sub>’ are visible to varying degrees [Section 2.3.1].



*Figure 2.3.3-IV* Horizontal relations between categories (Adapted from Bernstein, 2000, p. 161)

## 5. Evaluation Criteria

**Visible.** The recognition and realization rules for the ideal text are explicit (Bernstein, 2000) in line with Christie’s (2002) “developmental” (p. 174) model of pedagogy<sup>7</sup>:

It does not follow that successful teachers make no use of negative linguistic resources. On the contrary, good teachers sometimes use them well, mainly because they use them sparingly, where their effect is to help give reasonably effective definition to what constitutes acceptable behaviour, normally by making very clear what is not acceptable. (p. 86-87)

<sup>7</sup> Christie’s (2002) “developmental” (p. 174) model is characterized by a “developmental history” (p. 177). The developmental history follows a “unidirectional causal model” (Bandura, 1978, p. 344) in which learners move *from* commonsense *to* uncommonsense knowledge and “*become* [italics added] ‘scientific pedagogic subjects’” (Christie, 2002, p. 169). Commonsense knowledge is overlain with those components that come under ‘feeling’, and uncommonsense knowledge with those that come under ‘thinking’ as shown in *Figure 2.2.3-I* (Bernstein, 2000).

Behaviour is appraised at a general, rather than specific level. For example, positive *and* negative behaviour is appraised positively *or* negatively:

...teachers who offered support inconsistently (“ambiguous environments”) were perceived by students to be unsupportive, not different from teachers who did not scaffold and were explicitly negative on the first days of school. (Meyer & Turner, 2007, p. 249)

Structure-oriented (unambiguous) behaviour is visible establishing a pedagogic context of positive feelings, such as trust, as advanced by Meyer and Turner (2007):

In terms of building the foundation for positive student relationships, a teacher’s emotional scaffolding must convey consistently positive support of all students to firmly establish a context of trust. (p. 249)

***Invisible.*** The recognition and realization rules for the ideal text are implicit (Bernstein, 2000). Behaviour is appraised at a specific, rather than general level, bringing process-oriented (ambiguous) behaviour to the fore. In processing emotional information accordingly, this modality moves beyond the binary of “innocence vs. guilt”, in agreement with a “pedagogy of discomfort” advocated by Boler (1999, p. 187). In addition, in processing emotional information accordingly this modality demonstrates concern for establishing interconnectivity with outside communities through weak classification, in line with Golby (1996), who asks:

Is it possible, perhaps out of a sense of insecurity, to be too proprietorial and possessive over pupils, thus failing to liberate them into full membership of the school as a whole? (p. 10)

## 6. Rate of Acquisition

***Visible.*** The rate of acquisition of the “*relayed*” (Bernstein, 2000, p. 25), or pacing, is high or low, where the difference between pacing here in relation to an invisible pedagogic mode hinges not on the amount of resources invested, but the allocation

thereof. In this pedagogic model there is an inverse relation between the hierarchy of categories, and the allocation of resources:

The distribution of material resources tends to follow the distribution of images, knowledges and possibilities so that there is an inverse relation between resources and the hierarchy of images and knowledges. (Bernstein, 2000, p. xxii)

**Invisible.** The rate of acquisition of the “*relayed*” (Bernstein, 2000, p. 25), or pacing, is high-low (i.e. the allocation of resources operates on a cline of varying degrees of amounts). The negotiation of multiple goals simultaneously (Boekaerts, 2007, p. 45) is brought to the fore in this pedagogic modality.

In 2.3.3 I examined the realization of relations marked by strong and weak classification and framing through different pedagogic modalities. I indicated those modalities favoured by an ‘ideological’ emotional principle: visible pedagogy, developmental model, performance model, and those favoured by an ‘axiological’ emotional principle: invisible pedagogy, pedagogy of discomfort, competence model.

I adopted Bernstein’s (2000) concept of a ‘visible’ and ‘invisible’ pedagogy to organize and examine the language of description for these modalities, and extended upon the concept of a ‘visible’ and ‘invisible’ pedagogy by highlighting those components that are visible and invisible for both. This extension reveals that not only are there hierarchical relations wherever there is pedagogy, but horizontal relations as well.

I unpacked the language of description for these different modalities. To summarize, for a ‘visible’ pedagogy the ideal is visible. Attention is deployed towards this ideal, and formulating an appraisal of control involves the ‘performance’ of an ideal. Hierarchical relations are visible, and there is a high degree of investment within the ideal. For an ‘invisible’ pedagogy the ideal-non-ideal continuum is visible. Attention is characterized by a soft focus foregrounding solidarity through an expansion of the discourse to diverse value positions. Formulating an appraisal of control involves lengthy communication on

an individual basis. Horizontal relations are visible, and multiple goals are negotiated simultaneously.

### **2.3.4 Summary**

In 2.3 I examined the relational characteristic of the emotional principle. For pedagogic relations, I focused upon ‘relations between’ and ‘within’ for categories. Whereas strong classification and framing is tied to the presence of regulatory boundaries in space and time, weak classification and framing is associated with the absence thereof. For the realization of relations through different emotion regulation strategies, I looked at the relation between strong and weak classification, and suppression and reappraisal. In contrast to suppression that places an emphasis on ‘distance’, reappraisal foregrounds ‘intimacy’. For the realization of relations through different pedagogic modalities, I examined the relation between strong and weak classification, and a ‘visible’ and ‘invisible’ pedagogy. Whereas a ‘visible’ pedagogy reveals ‘linearity’, an ‘invisible’ pedagogy reveals ‘non-linearity’.

In the next section I examine the third characteristic of the emotional principle, namely: it concerns the notion of the subject.

## **2.4 The Emotional Principle: The Characteristic of Subjectivity**

### **Introduction**

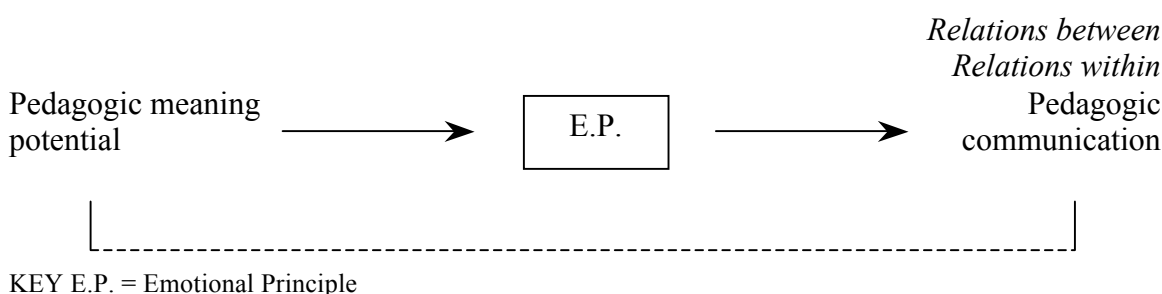
In 2.4 I consider the characteristic of subjectivity for the emotional principle introduced in 2.1.3 under the contextualized nature of language. I begin by looking at the foundation and building of subjectivity for the emotional practice. I then deal with the intrapersonal,



interpersonal, political/ communal level for the building of subjectivity. Lastly, I address the notion of stability and change for subjectivity through tracing genealogies particular to teachers' emotional lives. For each of these aspects, I examine the implications of an 'ideological' and 'axiological' emotional principle.

### 2.4.1 Pedagogic Subjectivity

The pedagogic discourse, or emotional principle [Section 2.1], is integral to the "construction of consciousness" (Bernstein, 2000, p. 146; see also Bourne, 2003, 2006; Christie, 1999a). The emotional principle, pertaining to the pedagogic apparatus, or "device" (Bernstein, 2000, p. 26), exists outside "the potential discourse that is available to be pedagogized", referred to as the "meaning potential" (Bernstein, 2000, p. 27; Eggins, 1994). It is activated by, and acts selectively on, this meaning potential represented as typological and topological system networks in 2.1.2 (Bernstein, 2000; Eggins, 1994; Martin & White, 2005). This is shown in *Figure 2.4.1-I* below.



*Figure 2.4.1-I* The building of the pedagogic communication or pedagogic subject  
(Adapted from Bernstein, 2000, p. 26)

The emotional principle involves the processing of emotional information in terms of value and control, or from a dialogic perspective, an engagement with socially-determined value positions (Martin & White, 2005). Through evaluation, or engagement, 'relations between' and 'within', marked by strong or weak classification and framing, are realized. This leads to the building of the pedagogic communication, or pedagogic

subject, which feeds back on the meaning potential in a contractive, or expansive manner (Bernstein, 2000; Martin & White, 2005):

The form and modality of pedagogic identity are an outcome of the classificatory relations (relations between categories) *and* the form of the realization of the classificatory relations, that is the strength of the framing (relations within). In other words the code modality is the outcome of ‘relations between’ and ‘relations within’. (Bernstein, 2000, p. 205)

In sum, subjectivity is defined in this study as the means by which meaning systems of a culture are learnt by social subjects. These meaning systems are learnt through the processing of emotional information at different levels, or from a dialogic perspective through an engagement with alternative socio-semiotic positions (Jones, 2005; Weedon, 1987; White, 2000). I review the implications of an ‘ideological’ and ‘axiological’ emotional principle for evaluation [Section 2.2], relations [Section 2.3] and subjectivity [Section 2.1.3] below taking into consideration the newly introduced concept in this section of a “meaning potential” (Bernstein, 2000, p. 27).

For an ‘ideological’ emotional principle there is the general processing of emotional information [Section 2.2.1]. Through evaluation ‘relations between’ and ‘within’ marked by strong classification and framing are realized [Section 2.3.1] forming a pedagogic communication, or pedagogic subject, which feeds back on the meaning potential in a *contractive* manner. The “politics of identity” (Kelchtermans, 1996, p. 9) is brought to the fore revealing an “*emotional regime*” (Zembylas, 2005a, p. 474), “vertical” relations (Martin & White, 2005, p. 29) and “*male controlling code*” (Poynton, as quoted in O’Halloran, 2004, p. 222) (*Figure 2.4.1-II*).

For an ‘axiological’ emotional principle there is the specific processing of emotional information [Section 2.2.1]. Through evaluation there is the realization of ‘relations between’ and ‘within’ marked by weak classification and framing [Section 2.3.1] building a pedagogic communication, or pedagogic subject, which feeds back on the meaning potential in an *expansive* manner. An identity characterized by solidarity is

made visible revealing an emotional community, “horizontal” relations (Martin & White, 2005, p. 29) and “*female responding code*” (Poynton, as quoted in O’Halloran, 2004, p. 222) (*Figure 2.4.1-II*).

	<i>An ‘ideological’ emotional principle</i>	<i>An ‘axiological’ emotional principle</i>
<i>Power and solidarity</i>	‘Emotional regime’	Emotional community
<i>Relations</i>	‘Vertical’ relations	‘Horizontal’ relations
<i>Code</i>	‘Male controlling code’	‘Female responding code’

*Figure 2.4.1-II* Subjectivity for an ‘ideological’ and ‘axiological’ emotional principle

The acquisition of the emotional principle, involved in the building of subjectivity, has a foundation in social interactions (Bernstein, 2000; Lemke, 1995; Martin & White, 2005). In operating according to an ‘ideological’/ ‘axiological’ emotional principle a person simultaneously invites others to: share similar feelings, tastes, norms (Martin & White, 2005), adopt particular emotion regulation strategies (John & Gross, 2004), and operate according to those prototypes of subjectivity built into the semantics of natural language, and other cultural semiotic systems (Lemke, 1995).

## **2.4.2 The Intrapersonal, Interpersonal and Political/ Communital Level**

I examine the operation of the emotional principle in the building of subjectivity at three levels for the emotional practice. These levels include an individual, social and political/ communital level. I draw upon the Bernstein’s (2000) tri-stratal framework of pedagogic rights that deals with the rights of enhancement, inclusion and participation at an individual, social and political level, respectively. I also draw upon Zembylas’ (2002) tri-stratal framework of teachers’ emotions, introduced in 1.4, in which teachers’ emotions are seen not only to pertain to the individual, but to be social and political affairs as well:

At the framework's heart is the view that the emotional lives of teachers are not only matters of individual reality (intrapersonal level) but are also social (interpersonal level) and political/ cultural/ social (intergroup level) phenomena shaped by how science teaching is organized and performed. (Zembylas, 2002, p. 84)

I foreground the component of control for the examination of the operation of the emotional principle in building subjectivity at the three levels. I do so due to the emphasis Bernstein (2000) places on realization for his tri-stratal framework in which the right of participation places an emphasis on a practice that has outcomes. I extend upon the third level of Bernstein (2000) and Zembylas' (2002) frameworks by making the communal for the emotional practice, in addition to the political, visible. I do so to account for an emotional practice in which an 'axiological' emotional principle regulates 'ways of feeling'.

At an individual level, I see appraisals concerning personal control to reveal the pedagogic right of "enhancement" (Bernstein, 2000, p. xx). Enhancement concerns "boundaries and experiencing boundaries as tension points between the past and possible futures" (Bernstein, 2000, p. xx). An appraisal of control determines how boundaries are experienced in terms of "constraints" and "opportunity" (Lazarus, 1999, p. 62-63). Enhancement is identified as a condition for confidence (Bernstein, 2000): "Where that right is not met then neither students nor teachers will have confidence, and without confidence it is difficult to act" (Bernstein, 2000, p. xx).

At a social level, I see appraisals concerning "*action-outcome* expectancies" (Pekrun, Frenzel, Goetz, & Perry, 2007, p. 18) [Section 2.2.1] to reveal to the pedagogic right of "inclusion" (Bernstein, 2000, p. xx). In other words, the extent to which a teacher, or learner, feels included "socially, intellectually, culturally and personally" (Bernstein, 2000, p. xx) depends on the teacher or learner's appraisal of the environment. Inclusion is recognized to be a condition for *communitas* (Bernstein, 2000). Lastly, at a political/ communal level, I regard the presence of the pedagogic communication, or pedagogic subject, to reveal the right of "participation" (Bernstein, 2000, p. xx). Participation is

considered to be a condition for “*civic practice*” (Bernstein, 2000, p. xxi). Bernstein’s adapted tri-stratal framework of pedagogic rights is summarized in *Figure 2.4.2-I* below:

<i>Levels</i>	<i>Rights</i>	<i>Conditions</i>
Intrapersonal	Enhancement	Confidence
Interpersonal	Inclusion	Communitas
Political/ Communital	Participation	Civic discourse

*Figure 2.4.2-I* The tri-stratal framework of pedagogic rights (Adapted from Bernstein, 2000, p. xxi)

For an ‘ideological’ emotional principle, appraisals concerning a high or low degree of control reveal opportunities or constraints for enhancement at an individual level. At a social level a high or low ‘action-outcome’ expectancy reveals opportunities or constraints for inclusion within the emotional practice. Lastly, relations of power are brought to the fore through a high or low degree of participation at a political/communital level (*Figure 2.4.2-II*). The subjective appraisal of personal control by the marginalized teacher, or learner, here (which depends on ‘action-control’ and ‘action-outcome’ expectancies [Section 2.2.1]) is low:

Where framing is strong, that is when the external (e) feature is strong, social class may play a crucial role. Where the external framing is strong, it often means that the images, voices and practices the school reflects make it difficult for children of marginalized classes to recognize themselves in the school<sup>8</sup>. (Bernstein, 2000, p. 14)

For an ‘axiological’ emotional principle, appraisals concerning a high-low degree of control (i.e. appraisals that operate on a cline) reveal graded opportunities for enhancement at an individual level. In addition, a high-low ‘action-outcome’ expectancy reveals graded opportunities for inclusion at a social level. Relations of solidarity are

<sup>8</sup> External (e) here refers to external relations, i.e. relations between the pedagogic context, and context external to it [Section 2.3.1].

brought to the fore at a political/ communal level through a high-low degree of participation (*Figure 2.4.2-II*). The subjective appraisal of personal control by the marginalized teacher, or learner, here (which depends on ‘action-control’ and ‘action-outcome’ expectancies [Section 2.2.1]) is high-low.

	<i>‘Ideological’ Emotional Principle</i>	<i>‘Axiological’ Emotional Principle</i>
<i>Intrapersonal</i>	High or low degree of personal control	High-low degree of personal control
<i>Interpersonal</i>	High or low action-outcome expectancy	High-low action outcome expectancy
<i>Political/ Communital</i>	High or low degree of participation	High-low degree of participation

*Figure 2.4.2-II* Perceived subjective control concerning the pedagogic communication

### 2.4.3 Genealogies of Emotions

I address the notion of “structure” (Lazarus, 1999, p. 13), or stability, and “process” (Lazarus, 1999, p. 13), or change, for subjectivity by adopting a historical perspective for emotions. Historicizing emotions brings relational, genealogical and contextual elements pertaining to the emotional practice to the fore (Abu-Lughod and Lutz, 1990; Boler, 1999; Schutz, Cross, Hong, & Osbon, 2007; Schutz & DeCuir, 2002; Zembylas, 2002, 2003, 2005b, 2007b). It involves an examination of construction, reconstruction and change in terms of the emotional lives of teachers:

[Historicizing emotions] means subjecting discourses on emotion, subjectivity, and the self to scrutiny over time, looking at them in particular social locations and historical moments, and seeing whether and how they have changed. (Abu-Lughod and Lutz, 1990, p. 5)

Genealogies of emotions operate at an individual, social and political (Zembylas, 2002), or communal level. Following Bernstein (2000), I begin the study of structure and process for the emotional practice at the level at which emotional information is

processed by the individual, in terms of value and control, or classification and framing. In doing so, process and structure are investigated in terms of the “underlying rules” (Bernstein, 2000, p. 3) that shape emotional experience:

Although framing carries the message to be reproduced, there is always pressure to weaken that framing...[A]t some point, the weakening of the framing is going to violate the classification. *So change can come at the level of framing.* (Bernstein, 2000, p. 15)

For an ‘ideological’ emotional principle, emotional information is processed at a general level [Section 2.2.1]. Relations marked by strong classification and framing are realized and the pedagogic communication, or pedagogic subject, feeds back on the meaning potential in a contractive manner [Section 2.4.1]. The pedagogic subject is marked by structure maintaining its distinctive voice. Emotions are characterized by structure presenting opportunities or constraints for emotional experience:

If that insulation is broken, then a category is in danger of losing its identity, because what it is, is the space between it and another category. Whatever maintains the strengths of the insulation, maintains the relations between the categories and their distinct voices. (Bernstein, 2000, p. 6)

For an ‘axiological’ emotional principle, emotional information is processed at a specific level [Section 2.2.1]. Relations marked by weak classification and framing are realized and the pedagogic communication, or pedagogic subject, feeds back on the meaning potential in an expansive manner [Section 2.4.1]. The pedagogic subject is marked by process involving mediation, or negotiation, between discourses. Emotions are marked by process as graded opportunities for emotional experience are presented:

I will suggest that as this discourse moves, it is transformed from an actual discourse, from an unmediated discourse to an imaginary discourse. As pedagogic discourse appropriates various discourses, unmediated discourses are transformed into mediated, virtual or imaginary discourses. From this point of view, pedagogic discourse selectively creates *imaginary subjects*. (Bernstein, 2000, p. 33)

In addition to the relevance of genealogies of emotions for an ‘ideological’ or ‘axiological’ emotional principle, genealogies of emotions also pertain to transitions in bringing one emotional principle, or another, to the fore, or seen differently, transitions in bringing those emotion regulation strategies favoured by one principle, or another, to the fore. In this regard, studies show from early adulthood (early 20s) to late-middle adulthood (early 60s) individuals make decreasing use of suppression, and increasing use of reappraisal (John & Gross, 2004).

#### **2.4.4 Summary**

In section 2.4, I examined the building of subjectivity in terms of a pedagogic communication, or pedagogic subject, that acts on the meaning potential in an enhancing or restricting manner. For an ‘ideological’ emotional principle general processing of emotional information realizes relations marked by strong classification and framing and a pedagogic communication, or pedagogic subject, that acts in a contractive manner. For an ‘axiological’ emotional principle specific processing of emotional information brings about relations marked by weak classification and framing and a pedagogic communication, or pedagogic subject, that operates in an expansive manner.

I looked at the operation of the emotional principle in the building of subjectivity at an individual, social and political/ communital level by drawing upon Bernstein’s (2000) tri-stratal framework for pedagogic rights, and Zembylas’ (2002) tri-stratal framework for teachers’ emotions. I extended upon Bernstein and Zembylas’ models to include the communital, and foregrounded appraisals of control in the examination of subjectivity at the three levels. I also put forward that appraisals concerning personal control, action-outcome expectancies, and the presence of the pedagogic communication, or pedagogic subject, reveal the pedagogic right of enhancement, inclusion and participation, respectively.



For an ‘ideological’ emotional principle appraisals of a high or low degree of personal control (dependent on action-control and action-outcome expectancies) reveal opportunities or constraints with regards to enhancement, inclusion and participation. Subjective appraisals of personal control by the marginalized teacher, or learner, are low. For an ‘axiological’ emotional principle appraisals of a high-low degree of personal control reveal graded opportunities in connection with enhancement, inclusion and participation. Subjective appraisals of personal control by the marginalized teacher, or learner, are high-low.

Lastly, I addressed the notion of structure and process for subjectivity through genealogies of emotions starting with the ‘underlying rules’ that shape emotional experience. For an ‘ideological’ emotional principle there is a general processing of emotional information bringing about relations marked by strong classification and framing, and a pedagogic subject that is marked by structure, and has a distinctive voice. For an ‘axiological’ emotional principle there is a specific processing of emotional information realizing relations characterized by weak classification and framing, and a pedagogic subject that is marked by process, and involves mediation.

## 2.5 Summary of the Theoretical Framework

In chapter 2, I mapped out a multilevel theory for a ‘linear’ and ‘non-linear’ model of emotion by foregrounding emotion as discursive practice. In the first instance, I outlined a multilevel theory for the value-laden characteristic of the emotional principle. In order to do so, I synthesized multiple theories: the inter-relationship between the ‘informational’ and ‘affective’, a multicomponential model of emotions, ‘appraisal theory’ and a model of institutionalized affect. I represent the synthesis of these theories for the characteristic of evaluation in *Figure 2.5-IA* below. I also expanded the multilevel theory by making a distinction between two types of emotional principles. I illustrate the extension of the language of description in *Figure 2.5-IB* below. For example: For the level of ‘feeling rules’, I outline two types of ‘feeling rules’: an ‘ideological’ emotional

principle and an ‘axiological’ one. In addition, I provide two types of recognition and realization rules: one that involves appraisals that are either high or low, and another that involves appraisals that operate along a cline. The synthesis of theories, and expansion of the theory, provides the multilevel theory as shown in *Figure 2.5-I*. In sum, the theory lays out the different levels that pertain to the characteristic of evaluation. For example: For the level of ‘feelings’ (*Figure 2.5-IA*), ‘appraisal theory’ maps out feelings as systems of oppositions. It places emphasis on categorical or typological analysis: A classroom is classified as a space of feelings of love, not feelings of hate. It also illustrates the interactions between different levels. For example: For the level of ‘feelings’ and ‘appraisals’ (*Figure 2.5-IA*), categorical or typological analysis is associated with an alignment or disalignment to socio-semiotic positions in the learning of meaning systems.

A	B	
<i>Multilevel theory for the characteristic of evaluation of the emotional principle</i>	<i>Expanded multilevel theory for the characteristic of evaluation of the emotional principle</i>	
<i>‘Feeling rule’:</i> “feeling rule” (Hochschild, 1979, p. 551); “emotional rule” (Zembylas, 2002, p. 93)	<i>‘Feeling rule’:</i> ‘ideological’ emotional principle	<i>‘Feeling rule’:</i> ‘axiological’ emotional principle
“recognition rule” (Bernstein, 2000, p. 17)	recognition rule: high or low value ascriptions	recognition rule: high-low value ascriptions
“realization rule” (Bernstein, 2000, p. 17)	realization rule: high or low controllability ascriptions	realization rule: high-low controllability ascriptions
<i>Feelings:</i> “institutionalized feelings” (Martin & White, 2005, p. 45)	<i>Feelings:</i> institutionalized feelings	<i>Feelings:</i> institutionalized <i>and</i> non-institutionalized feelings
“systems of oppositions” (Martin & White, 2005, p. 46)	‘systems of oppositions’	systems of complementarities
<i>Appraisals:</i> “reappraisal” (Gross & Thompson, 2007, p. 14)	<i>Appraisals:</i> (re)appraisal (focus: macro level)	<i>Appraisals:</i> (re)appraisal (focus: micro level)
systems of oppositions (Martin & White, 2005, p. 53-56)	systems of oppositions	systems of complementarities
“alignment” to socio-semiotic positions (Macken-Horarik, 2003b p. 315)	alignment or disalignment to socio-semiotic positions	alignment-disalignment to socio-semiotic positions

<i>'Informational':</i> "compelling narrative" (Hargreaves, 2005, p. 970); "grand narratives" (Bernstein, 2000, p. xxvi)	<i>'Informational':</i> 'compelling' narratives	<i>'Informational':</i> multiple narratives
<i>Intensity of feelings:</i> an emotional practice of "strong feelings" (Nias, 1996, p. 3)	<i>Intensity of feelings:</i> an emotional practice of strong feelings	<i>Intensity of feelings:</i> an emotional practice of graded feelings

*Figure 2.5-I* Multilevel theory for the characteristic of evaluation for the emotional principle

Secondly, I laid out a multilevel theory for the relational characteristic of the emotional principle: I brought together different theories, such as the systemic nature of language, the dialogic nature of language, the theory of pedagogic relations (Bernstein, 2000) and "*emotional geographies*" (Hargreaves, 2000, p. 815). I provide the synthesis of these multiple theories for the relational characteristic in *Figure 2.5-IIA* below. In addition, I expanded the multilevel theory by opening up the model further to two different descriptive and classificatory systems. I illustrate the refinement of the language of description in *Figure 2.5-IIB* below. For example: For the level of 'relations between', I indicate that whereas strong classification is associated with high or low value ascriptions, weak classification is tied to the formulation of high-low value ascriptions (i.e. appraisals that operate on a cline from high to low). Foregrounding topological analysis is important in opening up the model to include a 'non-linear' model of emotion that brings solidarity, rather than power to the fore:

Dichotomies such as vertical/ horizontal knowledge and hierarchical/ horizontal knowledge structures have the potential to simplify the discussion, with one consequence being the maintenance of particular ideologies about the nature of knowledge (Muller, 2004)... While Bernstein's (2000) theorizations are useful from a global perspective... it appears some caution is required with respect to the ideological side-effects of such classifications. (O'Halloran, 2007, p. 207)

The synthesis of theories, and expansion of the theory, provides the multilevel theory as shown in *Figure 2.5-II*: The theory maps out the different levels that pertain to the relational characteristic. For example: For 'criteria', for the level of 'framing' (*Figure 2.5-IIB*, Column 1), there is the processing of emotional information at a 'general level'

involving the selection or non-selection of communication. It also shows the interactions between the multiple levels. For example: For the level of ‘framing’ and ‘primary relations’ (*Figure 2.5-IIB*, Column 1), processing emotional information at a general level is associated with recontextualization (focus: macro level).

A	B	
<i>Multilevel theory for the characteristic of relations of the emotional principle</i>	<i>Expanded multilevel theory for the characteristic of relations of the emotional principle</i>	
<i>‘Relations between’:</i> dichotomy of strong or weak classification	<i>‘Relations between’:</i> strong classification: high or low degree of value	<i>‘Relations between’:</i> weak classification: high-low degree of value
<i>‘Relations within’:</i> dichotomy of strong or weak framing	<i>‘Relations within’:</i> strong framing: high or low degree of control	<i>‘Relations within’:</i> weak framing: high-low degree of control
<i>‘Framing’:</i> <i>Selection of communication</i>	<i>‘Framing’:</i> <i>Selection or non-selection of communication</i>	<i>‘Framing’:</i> <i>Selection and non-selection of communication</i>
<i>Sequencing</i>	<i>Sequencing:</i> “unidirectional causal model” (Bandura, 1978, p. 344)	<i>Sequencing:</i> model of “reciprocal determinism” (Bandura, 1978, p. 344)
<i>Pacing</i>	<i>Pacing:</i> high or low rate of expected acquisition	<i>Pacing:</i> high-low rate of expected acquisition
<i>Criteria</i>	<i>Criteria:</i> “general level” (Wranik, Feldman Barrett, & Salovey, 2007, p. 399)	<i>Criteria:</i> “specific level” (Wranik, Feldman Barrett, & Salovey, 2007, p. 399)
<i>Primary relations:</i> “recontextualization” (Bernstein, 2000, p. 160)	<i>Primary relations:</i> recontextualization (focus: macro level)	<i>Primary relations:</i> recontextualization (focus: micro level)

*Figure 2.5-II* Multilevel theory for the characteristic of relations for the emotional principle

Lastly, I outlined a multilevel theory for the characteristic of subjectivity for the emotional principle. In line with the approach taken for the above-mentioned frameworks on evaluation and relations, I synthesized multiple theories: the contextualized nature of language, the tri-stratal framework of pedagogic rights (Bernstein, 2000) and teachers’ emotions (Zembylas, 2002), “structure” and “process” (Lazarus, 1999, p. 13), and genealogies of emotions (Abu-Lughod & Lutz, 1990). I represent the synthesis of these theories for the characteristic of subjectivity in *Figure 2.5-IIIA* below. I also opened up

the multilevel theory by highlighting two types of emotional principles. I illustrate the extension and refinement of the language of description in *Figure 2.5-IIIB* below. For example: For the level of ‘emotional practice’, I describe the emotional practice underpinned by an ‘ideological’ emotional principle as an “arena” (Bernstein, 2000, p. 202) or “emotional regime” (Zembylas, 2002, p. 474) and an emotional practice underpinned by an ‘axiological’ emotional principle as an emotional community. The bringing together of different theories, and the opening up of the theory, provides the multilevel theory as shown in *Figure 2.5-III*. In sum, the theory indicates different levels relevant to the characteristic of subjectivity. For example: For the level of ‘pedagogic modality’ (*Figure 2.5-IIIB*, Column 1), the language of description for a ‘visible’ pedagogy reveals ‘hierarchical’ relations and masks ‘non-hierarchical’ relations. It also illustrates the interactions between different levels. For example: For the level of ‘pedagogic modality’ and ‘variables of tenor’ (*Figure 2.5-IIIB*, Column 1), a ‘visible’ pedagogic modality is associated with vertical relations based on solidarity.

A		B
<i>Multilevel theory for the characteristic of subjectivity of the emotional principle</i>		<i>Expanded multilevel theory for the characteristic of subjectivity of the emotional principle</i>
<i>‘Emotional practice’:</i> “arena” (Bernstein, 2000, p. 202); “emotional regime” (Zembylas, 2005a, p. 474)		<i>‘Emotional practice’:</i> ‘arena’ or ‘emotional regime’  <i>‘Emotional practice’:</i> emotional community
<i>Pedagogic modality:</i> dichotomy of “visible” or “invisible” pedagogy (Bernstein, 2000, p. 14)		<i>Pedagogic modality:</i> visible pedagogy: ‘linearity’ is visible  <i>Pedagogic modality:</i> invisible pedagogy: ‘non-linearity’ is visible
<i>Subjectivity:</i> “politics of identity” (Kelchtermans, 1996, p. 9)		<i>Subjectivity:</i> politics of identity  <i>Subjectivity:</i> communital identity
<i>Pedagogic subject:</i> “ideal” pedagogic subject (Christie, 2002, p. 162; see also Christie, 2001)		<i>Pedagogic subject:</i> ‘ideal’ pedagogic subject  <i>Pedagogic subject:</i> ‘ideal’ pedagogic subject to varying degrees
Teacher as authority who rhetorically orchestrates semiotic resources (Kress, Jewitt, Ogborn, & Tsatsarelis, 2001)		Foregrounds teacher as authority  Foregrounds teacher as rhetorician
<i>Pedagogic communication:</i> “legitimate text” (Bernstein, 2000, p. 17)		<i>Pedagogic communication:</i> ‘legitimate’ text  <i>Pedagogic communication:</i> ‘legitimate’ text to varying degrees

<i>Variables of tenor:</i> Foregrounds power (Abu-Lughod & Lutz, 1990; Boler, 1999; Zembylas, 2007a)	<i>Variables of tenor:</i> Foregrounds power	<i>Variables of tenor:</i> Foregrounds solidarity
“vertical relations based on solidarity” (Macken-Horarik, 2003b p. 315)	vertical relations based on solidarity	horizontal relations based on solidarity
<i>Tri-stratal model of emotion:</i> intrapersonal level; interpersonal level; political level (Bernstein, 2000; Zembylas, 2002)	<i>Tri-stratal model of emotion:</i> intrapersonal level; interpersonal level; political level	<i>Tri-stratal model of emotion:</i> intrapersonal level; interpersonal level; communital level
<i>Genealogies of emotions</i> (Abu-Lughod & Lutz, 1990; Boler, 1999; Zembylas, 2002)	<i>Genealogies of emotions:</i> “structure” (Lazarus, 1999, p. 13)	<i>Genealogies of emotions:</i> “process” (Lazarus, 1999, p. 13)

*Figure 2.5-III* Multilevel theory for the characteristic of subjectivity for the emotional principle

## Chapter 3 Methodology

### Overview of the Methodology

In chapter 3 I provide the rationale for this study together with the theories, strategies and methods adopted. As a discursive model informs the research design, I begin by providing an outline of this framework in which I indicate the manner in which this study distinguishes between the object and methodology to maintain the integrity of the object [Section 1.1]. I then outline the approach taken concerning ethics and the motivation behind the selection of two teachers in this study. Next, I examine the multiple methods adopted and unpack the approach taken in the analysis of the data. In the account of the analysis of the data, I provide four categories that emerged and organize illustrative realizations for these categories according to the social semiotic principles introduced in chapter 2. Throughout this chapter, I discuss the complexities encountered in doing research into emotion and the steps taken to deal with those challenges that arose.

### 3.1 Research Rationale

The purpose of this study is to uncover the principles that inform the teachers' behaviour and shape their feelings. I investigate the principles that underpin an emotional practice for two teachers in this study, Julia and Lydia, and their lower band Year 10 science classes. In addition, I aim to examine the implications of the principles that inform Julia and Lydia's dialogic behaviour for different aspects of their emotional practices. I examine not only the intensity of feelings involved, but the teachers' attentiveness towards feelings. I focus not only on achievement in physics, but rapport as well.

The fundamental question underlying this study is: How do a teacher's emotions influence teaching and learning science?

I consider the research question in terms of the following specific questions and sub-questions:

- 1) How do a teacher's emotions influence evaluation?
  - a) How does a teacher formulate ascriptions of worth and controllability?
    - i) How does a teacher process emotional information?
    - ii) What ascriptions of worth/ controllability does a teacher formulate?
    - iii) What is the strength of feelings involved?
    - iv) How does a teacher formulate appraisals of worth/ controllability for 'feelings' and those components that come under 'feelings'?
- 2) How do a teacher's emotions influence relations?
  - a) How does a teacher bring categories into relationship with each other?
    - i) How does a teacher bring categories (e.g. discourses) into a relationship with each other?
    - ii) How does a teacher bring fundamental categories (e.g. space, time) into a relationship with each other?
    - iii) How does a teacher bring categories to do with the pedagogic context, and external context, into a relationship with each other?
    - iv) What categories does a teacher bring into a relationship?
  - b) How does a teacher realize relations through different emotion regulation strategies?
    - i) What are the implications of these strategies at an individual level?
    - ii) What are the implications of these strategies at a social level?
  - c) How does a teacher realize relations through different pedagogic modalities?
    - i) Does the language of description reveal, or mask, hierarchy?
    - ii) Are the recognition and realization rules for an 'ideal' text explicit or implicit?
- 3) How do a teacher's emotions influence subjectivity?
  - a) How does a teacher build the pedagogic communication, or pedagogic subject?



- i) How does a teacher build the pedagogic communication through the formulation of ability ascriptions concerning her control?
- ii) How does a teacher build the pedagogic communication through the formulation of ability ascriptions concerning the learners' control?
- iii) Do a teacher's emotions stay the same, or change, over time?
- iv) How do a teacher's emotions stay the same, or change, over time?

## 3.2 Model of Analysis

In 3.2 I outline the discursive model of analysis for this study. I describe the manner in which the model of analysis is value-laden and the manner in which it may account for an observer's and/ or actor's perspective in determining those categories recognized and realized in a study. I then examine how the model outlined in this study is more 'recipient-designed' through its expansion to Julia and Lydia's perspectives. Lastly, I indicate the manner in which the model of analysis is explicit enabling effective recognition, realization and choice between models.

### 3.2.1 The Value-Laden Nature of the Model

The model of analysis in this study, outlined in 2.1-2.5, is discursive. In brief, the model of analysis concerns the building of a model of emotion through the operation of an emotion regulatory principle. The emotion regulatory principle has implications for the language of description for evaluation [Section 2.2], relations [Section 2.3] and subjectivity [Section 2.4]. The model of analysis outlined in this study answers calls to develop methodologies for investigating the constitution of emotions through language (Pekrun & Schutz, 2007):

...there are remarkably few studies showing how the acquisition of language affects the organization of emotional development. We therefore call for investigations of how language constitutes emotions by conveying values,

including praise, rejection, drawing attention to the emotional reactions of others, and so on. (Campos, Frankel, & Camras, 2004, p. 387)

A discursive model, as discourse itself, is not neutral (Christie, 2002; Gee, 1996; Lemke, 1998b; Martin & White, 2005): “Discourse analysis is always *interpretation* and it is just as viewpoint dependent as any other instance of discourse” (Lemke, 1998b, p. 1186). The model, as other “models of analysis of talk”, is “built on theories of human behaviour and society” (Christie, 2002, p. 22-23). It involves an imposition of an interpretation upon events (Christie, 2002) leading Weigand (2000) to pose the following question:

...we have to ask whether there is really something like empirical evidence. Evidence results from applying a model to empirical data. In the end, ‘we do not know what reality is independent of theory’ (Hawking 1993: 44). (p. 2-3)

The model of analysis has implications for various components of the methodology, including the research question, the selection of the teachers, the data analysis and interpretation. The model of analysis can take into account the “observer’s perspective” in determining the information content (Op’t Eynde, De Corte, & Verschaffel, 2007, p. 189). For example, Lemke (1998b) states: “Data are only analyzable to the extent that we have made them a part of *our* meaning-world and therefore also data about *us*” (p. 1176). The model of analysis can also take into account the “*actor’s perspective*” (Op’t Eynde, De Corte, & Verschaffel, 2007, p. 189). Lazarus (1999), reiterating Jessor’s argument to take the actor’s perspective into account, states “...there is still too much reluctance to take a subjective stance in our research and theories” (p. 9). The significance of what is happening from a teacher’s own perspective is important to understand the meaning-making relevant to a teacher’s appraisal processes and emotions (Lazarus, 1999; Op’t Eynde, De Corte, & Verschaffel, 2007). This study endeavours to account for the actor’s perspective to understand the role of a teacher’s emotions by developing a more ‘recipient-designed’ model [Section 3.2.2].

### 3.2.2 The Recipient-Designed Nature of the Model

Following Weigand (2000) the model of analysis in this study aims to maintain the integrity of the object. It makes a distinction between the methodology and the object (Weigand, 2000, p. 2), and evaluates the analytic practices/ stances adopted through a “two-way process of analysis” (Hood, 2004, p. 70) [Section 3.6]. These measures help to prevent making the object fit the model thereby transforming it into an “artificial one” (Weigand, 2000, p. 2). Interrogating a model is important due to the value-laden nature of the model outlined in 3.2.1 above. A model of analysis may be descriptive to one person, but “invoke an evaluative orientation in others, including the participants (Sarangi et al. 2003)” (Sarangi, 2003, p. 169):

The audience and the reader are often implied in our analysis, but they rarely become a topic of study in their own right. So, there is the challenge for us to reflect on how we categorize textual data and to what extent we wish to make our work recipient-designed. (Sarangi, 2003, p. 170)

Firstly, the model of analysis sets out to maintain the integrity of the object by accounting for a non-hierarchical, or ‘non-linear’, model of emotion. The model of analysis evolved from a ‘two-way process of analysis’ in which the model of analysis and data were used to interrogate each other [Section 3.6]. In this process preliminary analyses revealed Lydia did not fit the category system of a hierarchical model. For example: In terms of the component of value [Section 2.2], Lydia and her learners did sewing *and* graphing in the school sewing room during interval, rather than sewing only (*Data Extract 3.2.2-I*).

*Data Extract 3.2.2-I:*

[LTviii313-320]

viii	313	T: Okay, what I want, if you are stuck, come and see me at lunchtime. I'll be in 104 [the sewing room]. I'm helping [name] with her graph.
viii	314	S: Alright.
viii	315	T: Okay, it may be a good idea because graphing is a very important skill for this year and next year...
viii	320	T: Any of you who are unsure as to how to do the graph come and see me at

		104 during lunchtime. I'm going to be in there helping, and doing some sewing.
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Weigand (2000) outlines three ways that in principle could address the obstacles encountered in rule-governed methodologies: first, “to insist on rule-governed methodologies”, such as that afforded by a hierarchical model of analysis in this study, to the exclusion of “disturbing phenomena such as problematic understanding and emotion” (Weigand, 2000, p. 4); second, “to reject rule-governed methodologies” (Weigand, 2000, p. 4); and third, “to open up the model” (Weigand, 2000, p. 4). As outlined above this study adopts the third measure by including a ‘non-linear’ model of emotion.

Following Weigand (2000), I build on the steps already taken to open up the model. These include: the shift in emphasis from an examination of “hierarchical relations based on power” to “vertical relations based on solidarity” (Macken-Horarik, 2003b, p. 315; see also Martin & White, 2005); the emphasis given to “rhetoric” in addition to “ideational semantics” and “the logic of sentences” (Martin & White, 2005, p. 260-261; see also Kress, Jewitt, Ogborn, & Tsatsarelis, 2001; Edwards, Nicoll, Solomon, & Usher, 2004); and the examination of the “*politics of emotions*” in teaching (Zembylas, 2007a, p. 293). In addition, for the purposes of my Master’s thesis, I examined the selection of ‘everyday’ and ‘scientific’ knowledge [Figure 2.2.3-I] by the teacher as authority (Gray, 2006). In looking towards opening up the model Kress, Jewitt, Ogborn, and Tsatsarelis (2001) state:

Certainly we wish to challenge and overcome some of the dichotomies which exist still in this area: rationality/ emotion and affect, cognition/ affect, and the valuations of modes which have supported these. We think that there are significant agendas for work on these issues. (p. 180)

I also opened up the model by adhering to the principle of “*Working with Dialogue*” (Weigand, 2000, p. 2). This enabled extensions and refinements of the model of analysis. The model was opened up to a language of description that brings the specific processing of emotional information [Section 2.2.1], scalar systems [Section 2.1.2], and solidarity [Section 2.1.3] to the fore. The model was opened up “beyond Aristotelian limits of

clear-cut closed systems” (Weigand, 2000, p. 2) to include the “creative games” (Weigand, 2000, p. 6) that shape a teacher’s emotional practice.

Secondly, the model of analysis sets out to maintain the integrity of the object by engaging with the notion of a mind-body opposition. This extends upon the model of ‘institutionalized affect’ [Section 2.2.3] for which Martin (2000a) states “we are not prepared to invoke a mind/ body opposition criterially at this stage of our work” (p. 152). A ‘two-way process of analysis’ comparing Julia and Lydia’s emotional practice revealed a key aspect for Julia, in relation to Lydia, to be the favouring of strong classification between the ‘inner’ and the ‘outer’. This necessitated not only recognizing and realizing the ‘outer’ but the ‘inner’ as well. For example, for value [Section 2.2], Julia ascribes a high degree of worth to performance in science (*Data Extract 3.2.2-II*), and a low degree of worth to performance in science (*Data Extract 3.2.2-III*):

*Data Extract 3.2.2-II:*

[LTv4-10]

v	4	T: Girls, I don't even know how to say this to you...
v	6	T: I marked your tests last night.
v	7	Ss: [Some of the learners respond ‘Ooh’ with excitement.].
v	8	T: And they were fantastic.
v	9	S: Do we get them back?
v	10	T: They were absolutely fantastic...
v	16	T: I'm so pleased...
v	18	T: I'll bake you a cake on the weekend and bring you a cake on Monday.

*Data Extract 3.2.2-III:*

‘I feel powerless to just, I don’t know, I feel as though I have to jump through so many hoops just doing assessment tasks and things like that. And that’s probably the worst, the worst part of being a teacher. Yeah, so I guess that’s a part that I don’t like very much of being a teacher.’ [ITb145]

### 3.2.3 The Explicit Nature of the Model

The model of analysis in this study is explicit. A model of emotion is considered in terms of the implications of the emotional principle that underpins the model for evaluation [Section 2.2], relations [Section 2.3] and subjectivity [Section 2.4]. An explicit model of analysis is important to enable effective recognition, realization and choice between models (Bernstein, 2000) on account of the value-laden nature of a model outlined in 3.2.1 above. An explicit model also addresses a need to develop comprehensive frameworks of emotion that examine teachers' emotions in relation to their practice and identity (Pekrun & Schutz, 2007; van Veen & Lasky, 2005; Zembylas, 2007c):

A systematic understanding and conceptualization of teachers' emotions in relation to their work and identity is still missing, even with the growing body of educational research on emotions in teaching and teachers' professional lives (Hargreaves, 2001; van den Berg, 2002) and little research has examined teacher emotion within the framework of an explicit theory of emotion (cf. Sutton & Wheatley, 2003). (van Veen & Lasky, 2005, p. 896)

### 3.3 Agents, Agencies, Discourses and Practices

In the process of negotiating entry into Julia and Lydia's class I met with several teachers and observed their classes. I visited an all-boys', all-girls' and co-educational high school following an initial introduction to the heads of departments by my principal supervisor. I selected the all-girls' high school, Verda Girls' High, for the study. In line with the approach adopted by Butler, Egloff, Wilhelm, Smith, Erickson, and Gross (2003), the choice of an all-girls' school, as well as female teachers, for the study simplifies doing research into 'emotion' and 'emotional' talk [Section 2.1] as women tend to be more emotionally expressive than men (Kring & Gordon, 1998).

Verda Girls' High is a multiethnic school of one thousand learners in a medium-size university city. On entry to the school learners are streamed according to their academic records from previous schools. The vision at the school is one of academic excellence,

and in 2008 university entrance requirements were attained by 72% of the learners. An emphasis on a school culture of academic achievement is evident during the study from a four-day practical assessment task that is completed twice by the learners, in preparation for a similar task to be done the following year towards credits for the National Certificate of Educational Achievement (NCEA). In the science department at the school the teachers use the same unit plans of work which they are each able to modify to a certain extent.

In this study, I focus on Julia, an early career teacher, and her lower band Year 10 science class. Julia was recommended to me by the head of the science department at Verda Girls' High on account of the nature of her relationship with her lower band Year 10 class. The class consists of twenty-three learners. Five of the learners are Asian, one is Māori, and seventeen are Caucasian. Three of the learners receive continual learning support. Julia described the class as her 'special' class, at the start of the study, on account of their willingness to work for her, despite being reluctant to do so for other teachers at the school [FN2008.06.25].

I also focus on Lydia, a late career teacher, and her lower band Year 10 science class. Lydia joined Verda Girls' High in the early nineteen eighties. At the start of her career she took a year off to study 'slow learners' needs' [ITi78]. She has since tailored her teaching towards equipping low achieving learners motivated in part by her own progress at school due to the possibilities given to her by others to improve [ITiv108]. Her lower band class consists of twenty-three learners. Five of the learners are Asian and eighteen are Caucasian. Five of the learners receive continual learning support. (In addition to teaching the learners science, Lydia also teaches them food and fabric design.).

Julia and Lydia were chosen because they stand in contrast to each other. This is important as the basis of discourse analysis is comparison (Lemke, 1998b) [Section 3.6]. Firstly, Julia and Lydia's emotion philosophies stand in contrast to one another. Differences in their emotion philosophies were apparent from initial introductions and observations prior to inviting them to participate in the study. Upon meeting Julia, she

articulated a desire to partake in the study, but expressed concern in the recording of her feelings. She described herself as a teacher who doesn't get emotional, and appraised herself as simply a 'happy' teacher [FN2008.06.25]. In addition, initial observations of her class showed a caring classroom community involving explicit references of love [FN2008.07.04]. In contrast to Julia [FN2008.08.11] [FN2008.08.20], Lydia did not express concern in the recording of her feelings, nor request assistance later on. Initial observations of her class revealed efforts to develop strategies, as well as equip her learners with strategies, to enable more effective teaching and learning. For example, she asked the learners to write the answer to the following three questions: 'What helps me to learn in science?', 'What prevents me learning in science?' and 'What do I do that helps you learn terms and vocabulary?' [FN2008.07.04].

Secondly, Julia and Lydia are early and late career teachers, respectively. The selection of teachers at different stages of their career opens up the possibility of investigating the development of emotion regulation strategies. John and Gross (2004) report an increase in the use of reappraisal, and decrease in the use of suppression with age. Lydia and Julia provide a "retrospective" and "cross-sectional" examination (John & Gross, 2004, p. 1325) of the possible development of emotion regulation strategies. A core strength of this study, namely an in-depth investigation into the practice of two teachers [Section 3.5], limits though the examination of changes to two teachers and this needs to be taken into consideration in the interpretation of the findings. The selection of teachers at different stages of their careers, in research on emotion, is called for in the literature:

Conducting longitudinal studies and including teachers with different levels of experience, will help determine how teachers develop their emotion regulation goals and strategies, and the relationship of these goals to their other goals, efficacy, coping styles, and the sociocultural settings in which they live and work. (Sutton, 2004, p. 395)

In addition to focusing on two teachers in this study I also foreground two learners: Jackie in Julia's class, and Eadith in Lydia's class. Jackie is a high achieving learner in science who attained 'Excellence' on the post test for the physics unit examined. To obtain 'Excellence' the learners needed to be able to discuss simple circuits and motion in



one dimension. Eadith, on the other hand, is not a high achieving learner in science. For the post test she attained ‘Achieved’. To obtain ‘Achieved’ for the unit test the learners needed to be able to describe simple electrical circuits and motion in one dimension.

I foreground Jackie and Eadith on the basis of initial observations that revealed the teachers’ direction of attention towards the two learners. I tag the teacher-learner interaction for Jackie and Eadith to reveal the developing teacher-learner relationship as the unit unfolds. Jackie is visible in Julia’s class as Jackie explains the work to the learners, or performs a demonstration in front of the class, for example. Eadith is visible in Lydia’s class as Lydia circulates individually assisting learners, or assists Eadith to sew a button on her blazer after class. Julia’s direction of attention towards Jackie is evident from her description of a learner who displays attentive behaviour:

I’m always drawn to Jackie, just because she’s so outgoing, I think. But I guess, just smiley, sort of a bit bouncing in their chair, like just watching, looking like, looking at me, looking at what we’re doing. A tendency to be side tracked and talking, but on task, sort of talking to their neighbour, and saying, ‘Wow, you know, that’s cool,’ or something like that. [ITb87]

Lydia’s direction of attention towards Eadith is evident from her efforts to form a ‘bond’ with her by sewing with her during interval:

[Sewing] just gave her another focus until she was back in her own little kilter. And I kept up with her older sister who...I’ve taught before, and just commented to [name] that she seemed a bit uncomfy at the moment at the school. She said, ‘Yes, she’s having a really bad patch.’ So, I just said to [name] what I was doing, and she said, ‘Ah, great. I will let you know when I think she’s getting better at home, and then she should be okay.’ [ITi146]

The selection of the sex, band, learning area and year level in this study simplifies the research design in terms of investigating ‘relations between’ [Section 2.3.1]. The sex, band and learning area can reveal strong or weak ‘relations between’ for the pairs ‘female’ and ‘male’, lower and higher band, ‘everyday’ and ‘scientific’ knowledge. ‘Female’, lower band and ‘everyday’ knowledge tend to come under the component

‘feeling’ for the pair ‘feeling’ and ‘thinking’ [Section 2.2.3] in the “Western world view” of the individual, society and morality (Lutz, 1986, p. 289).

In the selection of “agents” (e.g. Julia), “agencies” (e.g. the science classroom), “discourses” (e.g. ‘scientific’ discourse) and “practices” (e.g. physics) (Bernstein, 2000, p. 6) I sought to maintain the integrity of the object [Section 3.2.2]. I did so by taking into consideration the internal and external component of a model of analysis in which there are strong ‘relations between’ ‘agents’, for example. The ‘two-way process of analysis’ [Section 3.6] between the two teachers’ practices revealed a key difference to be Julia’s protective behaviour of her learners. To account for this difference it was important to examine not only Julia, but the other teachers with whom she has a relation.

Similarly, the ‘two-way process of analysis’ between the two teachers’ practices showed a central difference to be Julia’s preference for “specially defined pedagogic spaces” (Bernstein, 2000, p. 46). In the first place, this meant recognizing the internal component of the model to acknowledge this difference, namely the context of the science classroom. In order to do so, I drew upon a model of analysis that values context in doing research into emotions (Op’t Eynde, De Corte, & Verschaffel, 2007; Pekrun & Schutz, 2007; Schutz & DeCuir, 2002; Schutz & Pekrun, 2007; Lazarus, 1999). This model of analysis recognizes a specific ‘agent’, ‘agency’, ‘discourse’ and ‘practice’:

...students’ appraisals of a learning event are situated within a time-space frame characterized by a specific classroom, task, teacher, the instructions and comments given, the phase in the problem-solving process, and so on. (Op’t Eynde, De Corte, & Verschaffel, 2007, p. 188)

Secondly, it required focusing my attention towards the contexts external to the science classroom. Martin (2003) likewise argues for the recognition of not only the ‘ideational’ or ‘ideological’ component (e.g. a context, text, etc.), but the ‘interpersonal’ or ‘axiological’ component for a model of analysis as well (e.g. the relation between contexts, texts, etc.). This is important to understand more fully the role of a teacher’s emotions in which the level at which a teacher processes emotional information

determines the relationship between texts and the manner in which the pedagogic communication acts on “the potential discourse that is available to be pedagogized” (Bernstein, 2000, p. 27) [Section 2.4.1]:

Discourse analysis in recent years has placed considerable emphasis on the importance of context, at times apparently losing sight of the importance of co-text (Martin 2000c); but we will never understand the function of evaluation in a culture if our studies are based, however quantitatively, on the analysis of ‘decontextualized’ examples. (Martin, 2003, p. 177)

I also sought to maintain the integrity of the object by accounting for weak ‘relations between’ ‘agents’, ‘agencies’, ‘discourses’ and ‘practices’. In the ‘two-way process of analysis’ between the model of analysis and data, it emerged that Lydia ascribed worth to other ‘agents’, for example, by inviting members from the school community into the classroom. To account for this difference between the two teachers’ practices meant not only acknowledging Lydia, but the other ‘teachers’ invited into the classroom too. Julia, an ESOL (English for Speakers of Other Languages) teacher, the laboratory technician, a student teacher, and a teacher aide all spent time in Lydia’s classroom during the study.

Similarly, the ‘two-way process of analysis’ between the model of analysis and data revealed Lydia favoured “few specially defined pedagogic spaces” (Bernstein, 2000, p. 46). This necessitated directing my attention “beyond Aristotelian limits of clear-cut closed systems” (Weigand, 2000, p. 6) defined by the boundaries of the science classroom. For example: She ascribes worth to a learner’s ‘love’ of karate stating ‘[Name] loves karate...She’s almost a black belt now, she’s very good at it. So I would try and talk to her about physics in terms of karate’ [ITiv52]. In a similar light, Lemke (n.d.b) argues for a teacher, or curriculum, to give value to the internal context (e.g. the school), *and* external context (e.g. the learners’ lives):

There is no more reason to believe that the habits of vital experiencing will automatically transfer to the rest of students’ lives than that habits of technical reasoning will do so. What lasts for the longterm in us is what we have learned how to remake for ourselves across many contexts. This is not only an argument for more multi-disciplinary curricula, but for the curriculum to work more

vigorously against the radical separation of school from the rest of students' lives. It is a very Deweyan concern. (Lemke, n.d.b, p. 5)

### 3.4 Ethical Considerations

Informed consent was obtained from the school principal, head of department, teachers, parents and learners involved after receiving ethical clearance from the University of Canterbury College of Education Ethical Clearance Committee. In addition, informed consent was obtained from unexpected visitors to the classroom, such as the laboratory technician. In requesting permission to do the study I met formally with the principal, teachers and learners to explain the study and answer any questions. The letters given to the participants outline the aim of the project, tasks, procedures, and an estimation of the time required from the participants (Appendix B). The participants were given the right to withdraw from the study at any time, including the withdrawal of any information provided. On one occasion the latter right was exercised. In addition, they were assured of the confidentiality of the data gathered. To ensure confidentiality and anonymity, all names and identifying details in verbal and written reports were code-named. In addition, videotapes and observation sheets were removed at the end of a lesson and stored in a locked filing cabinet, only accessible to the researcher, in the research office at the university. All recorded data will be destroyed after the standard period of five years.

The approach to the analysis of the data in this study is not a judgmental one in which an 'ideological' or 'axiological' emotional principle is evaluated positively or negatively. Instead, in line with the comparative basis of discourse analysis (Lemke, 1998b), two teachers are compared to reveal the differences between one pedagogic practice that favours an 'ideological' emotional principle, and another that favours an 'axiological' emotional principle. To minimize a teacher in the study evaluating herself, for example, negatively in relation to the other a number of steps were taken. For example: I met Julia on several occasions to assist her with the process of recording her feelings, and to reassure her that I was interested in those features that were unique to her practice. When I did member checks I met with the teachers separately to receive feedback on my

progressive analysis and interpretation of their practice. I also wrote conference papers particular to Julia and Lydia's emotional practice for written and oral commentary from peer review processes.

### 3.5 Research Methods

I perform ethnographic work (Zembylas, 2004d; 2005a) in this study to investigate the emotional practice of Julia and Lydia. I do so by drawing upon “multiple methods” (Zembylas, 2007c, p. 68; see also Lazarus, 1999; Pekrun & Schutz, 2007) to examine the “emotional life” (Harré & Gillett, 1994, p. 146) of the two teachers over a six-month period. Ethnography offers the opportunity for “highly verifiable and richly valid accounts of people's emotional lives and experiences” (Hargreaves, 2005, p. 969), and gives insight into the historicity of the emotional practice [Section 2.4.3]. In-depth and complex accounts of teachers' emotions produce insightful discourse analysis studies:

Discourse analysis studies are often best when they examine a particular community in depth. Discourse analysis produces its greatest insights when rich contextual information can be factored into the analysis of each text or episode. (Lemke, 1998b, p. 1184)

Ethnography gives the opportunity to investigate the complex nature of a teacher's emotions (Abu-Lughod & Lutz, 1990; Campos, Frankel, & Camras, 2004). The relation between emotion and language is recognized to be complex (Hargreaves, 2005; Lutz & Abu-Lughod, 1990; Zembylas, 2005a): “we can express feelings that we have, we can have feelings that we do not express, and we can express feelings that we do not have (Daneš 1987: 174f, Caffi & Janney 1994)” (Bednarek, 2008, p. 6-7). As a result, it is necessary to draw upon ‘multiple methods’ to investigate the complex nature of teachers' emotions.

In this study ‘multiple methods’ expand the model of analysis, as advocated by Sutton and Wheatley (2003), to include not only “salient emotional episodes”<sup>9</sup> (p. 335), but “day-to-day” emotions as well (p. 335), complementing studies in which teachers have been asked to report on “significant emotional episodes” (Hargreaves, 2000, p. 816; see also Lasky, 2005). In addition, ‘multiple methods’ are important to provide insight into whether a teacher favours an ‘ideological’ or ‘axiological’ emotional principle [Section 3.2.2], and to reveal the internal and external component of a ‘linear’ model of emotion [Section 3.2.2]:

To gain a more complete picture of teachers’ emotions, researchers must also include measures that extend beyond self-report such as observations and physiological measures. The interdependence of emotion components (Mesquita *et al.*, 1997) means that replacing interview techniques with observations is not the solution. Rather, multiple measures research is needed. (Sutton & Wheatley, 2003, p. 335)

A complex and in-depth account of the ‘emotional life’ of Julia and Lydia can build upon studies that examine the implications of emotion regulation strategies due to their preference for an ‘ideological’ and ‘axiological’ emotional principle, respectively, and the emotion regulation strategies associated with these two principles [Section 2.3.2]. Butler, Egloff, Wilhelm, Smith, Erickson, and Gross (2003) call for studies to test the generalizability of their findings for the social implications of suppression and reappraisal within a non-“artificial” social situation (p. 64). In addition, Gross and John (2003) call for studies to extend upon their findings for the implications of suppression and reappraisal by detailing the behaviours of individuals who use these two strategies:

...these methods do not permit us to directly assess an individual’s use of suppression and reappraisal strategies in the context of specific emotion regulation episodes. In future research, diary and experience sampling methods might be used to examine when and where individual differences in reappraisal

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<sup>9</sup> Drawing upon Kress, Jewitt, Ogborn, and Tsatsarelis (2001) I define an emotional episode as an analytical unit in which the start and end marker can be distinguished by a shift in content, for example. Outlining the manner in which they segmented their data Kress, Jewitt, Ogborn, and Tsatsarelis (2001) state “Gross shifts in posture, position, communicative mode and content were read as the start and end markers of these analytical units (Schefflen, 1973; Bateson, 1987)...” (p. 38-39). In addition to “[g]ross” shifts (Kress, Jewitt, Ogborn, and Tsatsarelis, 2001, p. 38) in content, for example, this study also recognizes subtle shifts, i.e. weak classification [Section 2.3.1], to account for the building of a ‘non-linear’ model of emotion.

and suppression use are most evident, and to map in detail the specific behaviours individuals use in their attempts to use these two strategies. (Gross & John, 2003, p. 361)

The ‘multiple methods’ in this study include: analysis of classroom interaction, emotion diary entries, meta-emotion and semi-structured interviews, and a journal. In brief, the analysis of classroom interaction contextualizes emotion episodes. The emotion diary entries, which are recorded by the teacher through intentional remembering, are useful for obtaining information on emotion episodes in the science classroom. The meta-emotion interview looks at the teacher’s awareness of her and the learners’ emotions, as well as the regulation of emotions, and the semi-structured interview obtains extra information on the emotion episodes recorded in the diary and field notes. Lastly, the journal that I kept is useful for the iterative process of theory development. In the following sections I discuss the research methods in further detail.

### **3.5.1 Classroom Interaction**

A research method in this study is the analysis of classroom interaction. In order to successfully carry out classroom observations for this study I met Julia and Lydia, prior to the classroom observations to organize and discuss the ‘selection of communication’, ‘sequencing’ and ‘pacing’ [Section 2.3.1] of the units to be taught. The classroom observations took place over a ten week term. During the term the Year 10 learners participated in a three week unit on electricity, and a five week unit on motion. In addition, they did a two week practical science investigation as preparation for a similar investigation to be carried out in Year 11 towards credits for the National Certificate of Educational Achievement (NCEA).

Julia and Lydia agreed to teach the same unit simultaneously. In addition, they agreed to teach electricity for the preliminary study and motion for the study. It was important to organize the sequencing of the units as the Year 10 science teachers at the school taught different units at the same time in order to distribute resources. I observed six lessons for

the unit on electricity for the purpose of a preliminary study. This involved observing at least one lesson each week for the three week unit, and video and audio recording four consecutive lessons in the final week. I observed the entire unit on motion for the purpose of the study. The number of lessons observed for each teacher is summarized below:

		<i>Julia</i>	<i>Lydia</i>
1.	Prior to study	4	1
2.	Preliminary study	6	6
3.	Study	24	25
	<i>Total number of lessons observed</i>	34	32 <sup>10</sup>

*Figure 3.5.1-I* The total number of lessons observed for Julia and Lydia

The curriculum unit ‘Motion’ was selected for the study for several reasons. Firstly, the unit spans a period of five weeks, as opposed to three, and includes a two week practical investigation. The length of the unit was important to have a better understanding of the complex nature of a teacher’s emotions. Secondly, the unit was recognized by Julia and Lydia to be challenging for the learners [ITd36] [ITiv32]. This presented the opportunity to examine how the teachers taught their learners to deal with obstacles. Thirdly, the investigation of interpersonal meaning for teaching a unit on motion complements and builds upon a previous study I conducted for the purposes of my Master’s thesis in which I examined ideational meaning for a unit on motion (Gray, 2006).

The experiential content for electricity and motion built upon ‘concepts’ taught in Year 9. Learning outcomes for electricity included: to explain the difference between conductors and insulators, to explain electrical resistance, and to draw and construct series and parallel circuits. Learning outcomes for motion included: to state the System International Units (S.I. Units) for distance, speed and time, to calculate the speed of objects using the formula speed equals distance over time, and to describe motion from distance/ time and speed/ time graphs. The content of the transcribed lessons and partly transcribed assessment tasks is summarized in *Figure 3.5.1-II* to *V* below. The lessons and

<sup>10</sup> Lydia and Julia taught one lesson a week at the same time. As a result, I had to observe seven of the lessons for Lydia from the video recordings made.



assessment tasks are given an alphabetical reference for Julia, and a numerical reference for Lydia.

<i>Lessons</i>	<i>Alphabetical reference of lessons</i>	<i>Experiential content</i>
Electricity	a	Simple electrical circuits
	b	Conductors and insulators
	c	Electrical resistance
Motion	e	S.I. Units for distance, speed and time
	k	Speed distance time calculations
	n	Distance time graphs
	p	Speed time graphs
Revision exercises	d	Electricity
	f, g	Year 9 motion
	o, r	Motion
	q, s	Motion and electricity
Investigations	h – j	The time taken for a toy car to reach the bottom of a ramp
	l, m	The time taken to cover a certain distance by walking, skipping and running
	t – v	The time taken for a parachute to fall a fixed distance

*Figure 3.5.1-II* The experiential content of the lessons observed for Julia

<i>Lessons</i>	<i>Numerical reference of lessons</i>	<i>Experiential content</i>
Electricity lessons	i	Simple electrical circuits
	ii	Electric current and voltage
	iv	Electrical resistance, Conductors and insulators
Motion lessons	vi	S.I. Units for distance, speed and time
	x, xi	Speed distance time calculations
	xiv	Distance time graphs
	xv	Speed time graphs
Revision exercises	iii, xvii, xviii	Electricity
	xix	Electricity: Simulation program
	v	Unit conversions
	vii	Year 9 motion
	xvi	Motion
Investigations	viii, ix	The time taken for a toy car to reach the bottom of a ramp

	xii, xiii	The time taken to cover a certain distance by walking, skipping and running
	xx – xxiii	The time taken for parachutes of different mass to fall a fixed distance

*Figure 3.5.1-III* The experiential content of the lessons observed for Lydia

<i>Assessment tasks</i>	<i>Alphabetical reference of assessment tasks</i>	<i>Experiential content</i>
Literacy post test	a day 1	Electricity and motion
Pre-post test	a day 2	Electricity and motion
Post test	b	Electricity and motion
Practical science investigation	c day 1 – 4	The time taken for parachutes of different size to fall a fixed distance

*Figure 3.5.1-IV* The experiential content of the assessment tasks observed for Julia

<i>Assessment tasks</i>	<i>Numerical reference of assessment tasks</i>	<i>Experiential content</i>
Literacy post test and pre-post test	i day 1	Electricity and motion
Post test	ii	Electricity and motion
Practical science investigation	iii day 1 – 4	The time taken for parachutes of different size to fall a fixed distance

*Figure 3.5.1-V* The experiential content of the assessment tasks observed for Lydia

The preliminary study was helpful to prepare adequately for the study by learning more about the context and the nature of the pedagogic relationships. In terms of the context of situation [Section 2.1.3], I learnt more about the school, seating arrangement of the classrooms and resources. This was important as the teachers did not have their own classrooms. Instead, they taught three lessons in one science laboratory a week, and a fourth in a second science laboratory. I therefore needed to become familiar with the various locations and arrangements of the four classrooms so that I could set up the

necessary audio and video equipment at the start of the lesson period. In terms of the nature of the different pedagogic relationships, initial observations revealed Julia favoured whole class instruction, whereas Lydia favoured facilitation. It was therefore necessary to use both a video recorder, and digital audio recorder, to capture the teacher-learner interaction. Lydia's attentiveness towards her learners' feelings also emerged during the preliminary study as she remarked of her own accord towards the end that her learners seemed little concerned by my presence within the classroom. She did so on two separate occasions [FN2008.07.30] [FN2008.08.04].

During the study I built up a picture of the teachers' emotional practices by recording the lessons, taking field notes and collecting relevant texts:

***Video and audio recording lessons.*** I recorded the lessons and assessment tasks outlined in *Figure 3.5.1-II to V* above. During the video recording I focused the camera on the teachers' movements as they engaged in whole class instruction, and as they walked around the classroom assisting learners. I chose to position myself at the back of the classroom as this meant I was out of the learners' view unless the learners turned around. It was important for me to use a hand-held video recorder as it was necessary at times to follow the teacher and learners as they moved, for example, from the science laboratory, to the school yard, and then returned to the science laboratory once more.

Video and audio recording the lessons was important for capturing the complex nature of the teaching and learning process (Bourne, 2003). The audio recording captured the teacher-learner interaction when the teachers assisted the learners individually, or conducted an activity in an expansive area such as the school yard. The video recording captured the teachers and learners' movements in time and through space enabling a mapping out of the 'physicality' of emotion [Section 2.3.1]. Lastly, the video-recording captured the multiple ways in which meaning is made in science. This is important as the 'concepts' of science are "semiotic *hybrids*" (Lemke, 1998c, p. 3):

Videotapes obviously contain a wealth of relevant visual information on gaze direction, facial expression, pointing and other gestures, contextual artifacts referred to in the verbal text, positional grouping, relative distances and directions. Along with *field notes*, they help us to reconstruct the social situation... (Lemke, 1998b, p. 1177)

***Taking field notes.*** I took approximately two hundred pages of field notes. In the process of doing so, I described the classroom activities. I recorded references made by the teachers and learners with regards to how they were feeling, and noted examples of the role of emotions in teaching and learning. I also made preliminary analyses of what I was seeing. As I spent a large part of the school day at the school I documented both formal and informal conversations had with Julia and Lydia. This was important as the teachers often purposefully indicated to me aspects that were of value to them as they got ready for their next class, or in the hallways as we made our way to the classroom. The field notes are given the same alphabetical/ numerical name as the lessons for which they were made (*Figure 3.5.1-II and III*), or dated if there is no corresponding lesson. In addition, I use the abbreviation ‘FN’ to indicate ‘field notes’.

***Collecting texts.*** Following Christie (2002) and Lemke (1998b), I collected those texts connected to the verbal data to inform the analysis and interpretation of the verbal data. Lemke (1998b) refers to these texts, verbal and written, as “*intertexts*” (p. 1177) that together constitute a “web of intertextuality” (p. 1186) for a unit of work. Together, they provide “rich descriptions” (Lemke, 1998b, p. 1186) of the teaching and learning process as a unit of work unfolds. The relevant ‘intertexts’ pertaining to curriculum documents, unit and lesson plans, record-keeping sheets, learning materials, assessment documents, reports, school policy documents and materials read by the teachers and subsequently passed on to me are outlined below:

<i>Curriculum documents</i>	<ul style="list-style-type: none"> <li>• <i>Science in the New Zealand Curriculum (SNZC)</i> (Ministry of Education, 1993);</li> <li>• <i>The New Zealand Curriculum (NZC)</i> (Ministry of Education, 2007)</li> </ul>
<i>Unit and lesson plans</i>	<ul style="list-style-type: none"> <li>• Achievement aims; achievement objectives; learning outcomes; achievement criteria for the unit on electricity and motion</li> </ul>

<i>Record-keeping sheets</i>	<ul style="list-style-type: none"> <li>• Class lists; attendance registers; assessment scores</li> </ul>
<i>Learning materials</i>	<ul style="list-style-type: none"> <li>• Year 10 science textbook;</li> <li>• PowerPoint presentations;</li> <li>• Worksheets on electricity and motion;</li> <li>• Learners' workbooks</li> </ul>
<i>Assessment documents</i>	<ul style="list-style-type: none"> <li>• Pre-post test; post test; practical assessment tasks</li> </ul>
<i>Reports</i>	<ul style="list-style-type: none"> <li>• Reports written by Lydia on individual learners</li> </ul>
<i>School notices and policy documents</i>	<ul style="list-style-type: none"> <li>• Code of conduct; school rules; uniform rules; weekly notices</li> </ul>
<i>Materials read by the teachers</i>	<ul style="list-style-type: none"> <li>• 'Put a Little Science in Your Life' (Greene, 2008);</li> <li>• 'Before your teenagers drive you crazy, read this!' (Latta, 2008);</li> <li>• 'DailyGood' (DailyGood homepage, 2009)</li> </ul>

*Figure 3.5.1-VI* The relevant 'intertexts' collected

I transcribed the forty five lessons (duration: forty to fifty minutes) outlined in *Figure 3.5.1-II* and *III* above. In addition, I partly transcribed the lessons for the eight assessment tasks outlined in *Figure 3.5.1-IV* and *V* above. The relation between the transcript and original video and audio recording needs to be taken into consideration as the process of transcribing involves the preservation, loss and alteration of data (Lemke, 1998b). The process of transcribing, as all forms of analysis, is reductive (Lemke, 1998b) as a transcriber discards information by choosing “*what* to transcribe” and in “*how much detail*” (Eggins, 2000, p. 148) thereby bringing features of interest to the fore. In addition, the act of changing the medium from verbal to written language in the process of transcription alters a person's expectations and perceptions of language (Lemke, 1998b).

I transcribe the lessons in this study at a “lexical level” (Lemke, 1998b, p. 1177). I include meaningful whole words and “non-lexical vocalizations” (Lemke, 1998b, p. 1177), such as the interjections ‘Aah’ [LTh321], ‘Hah’ [LTj117], ‘Yippee’ [LTb1]. In addition to transcribing verbal language, I also include written, visual and mathematical literacies constructed on the classroom whiteboard, or projected on the screen from a PowerPoint presentation. I do so as the concepts in science are “semiotic hybrids” (Lemke, 1998c, p. 3), and because the communication of feelings can take place through multiple modalities (Martin, 2004b).

I provide an example of a transcript below to outline the conventions of transcription for this study. In the transcript ‘LT’ stands for ‘lesson transcript’, ‘T’ for teacher, and ‘S’ for student. A student is labeled ‘S1’ to follow the utterances made by the student as the dialogue unfolds. For the utterance ‘Then you have to try again’, for example, ‘xv’ stands for transcript ‘xv’, whilst ‘262’ stands for speech act ‘262’. For ease of readability I omit repetitions found in the original transcripts in the report, except where deemed important to the analysis. I also include punctuation. ‘AT’ (not shown here) is used to indicate ‘assessment transcript’.

[LTxv255-262]

xv	255	S1: I'm too tired for this.
xv	256	S2: I don't get this. Aaahhh. It doesn't work.
xv	257	S1: Yeah, I know. It's bad. I quit.
xv	258	T: Why?
xv	259	S1: I keep putting it in the wrong place.
xv	260	T: That's why you need to practice.
xv	261	S1: It's the third time I've put it in that one spot.
xv	262	T: Then you have to try again.

### 3.5.2 Science Teaching Emotion Diary

A second research method in this study is a science teaching emotion diary. I adapted the science teaching emotion diary from Oatley and Duncan’s (1992) emotion diary. In addition, I drew upon Zembylas (2002) to modify the diary for the context of the science classroom, and Martin and White (2005) to provide a list of feelings. The teachers were asked to complete two diary entries per week on emotion episodes that took place in the science classroom and during the school day in relation to their science teaching. Julia and Lydia made fifteen and fourteen diary entries, respectively, over the duration of eight weeks. This period included the last week of the preliminary study, the five week unit on motion and the two week practical science investigation. A summary of the emotion diary entries made by the teachers is provided in *Figure 3.5.2-I and II* below. The entries are

given the same alphabetical/ numerical name as the lessons for which they were made [Section 3.5.1], or dated if there is no corresponding lesson.

<i>Emotion diary entry (EDE)</i>	<i>Emotion, mood<sup>11</sup></i>	<i>Contents</i>
EDEb	Happy/ relaxed	Being with the learners
EDE2008.08.07	Fear, anger	Year 11 learner disobeys instructions
EDEe	Frustration	Learners chat in class
EDEf	Excited	Newly arrived learner participates
EDE2008.08.22	Frustration	The curriculum content
EDEj	Flat	No reason provided
EDEm	Happy	Giving the learners time limits
EDEo	Compassion	Learner has familial concerns
EDEp	Happy	Learners' work ethic
EDE2008.09.08	Worried/ preoccupied	Familial concerns
EDEr	Happy/ pleased	Learners complete difficult worksheet
EDEt	Boredom/ lethargy	A science practical investigation
EDE for Ab	Delighted	The learners' post test
EDE2008.09.26	Annoyed/ irritated	Group of learners are 'rude'
EDE for Ac	Sad	Learner cheats

*Figure 3.5.2-I* The emotion diary entries made by Julia documenting her feelings and their contents

<sup>11</sup> An emotion is usually defined as an affective state with a specific emotional trigger, whereas a mood is defined as an affective state for which a person may find it difficult to relay a particular cause (Do & Schallert, 2004; Frijda, 1993b; Martin & White, 2005). As an emotion and mood may be difficult to distinguish in a real context (Do & Schallert, 2004), I follow Do and Schallert (2004) in being inclusive rather than precise by asking Julia and Lydia to record their emotions and moods.

<i>Emotion diary entry (EDE)</i>	<i>Emotion, mood</i>	<i>Contents</i>
EDEiii	Joy	Learners work at level ‘Excellence’
EDEiv	Peaceful	Being with the learners
EDEv	Frustration	Learners’ lack of numeracy skills
EDEvii	Gutted	Learners are rude
EDEviii	Happy	Making progress in the unit
EDEx	Calm	Many of the learners work well
EDExii	Peaceful and satisfied	A science practical investigation
EDExiv	Sad	Learners’ poor work ethic
EDExv	Gentleness	Learners’ ‘buy in’ to lesson
EDExvii	Help – OK	A learner falls and hurts herself
EDExviii	OK	Learners complete worksheet
EDExix	Peace	Learners’ ‘buy in’ to lesson
EDExxii	Pleasure	Learners’ determination to do well
EDE for Aii	Happiness	The learners’ post test

*Figure 3.5.2-II* The emotion diary entries made by Lydia documenting her feelings and their contents

A copy of the science teaching emotion diary is provided in Appendix C. The science teaching emotion diary begins by asking a teacher to name and classify an emotion incident, to indicate whether the feeling was mixed, and to say if the emotion stayed the same, or changed (Question 2 to 5). In addition, the teacher is asked to elaborate on what goal-relevant antecedents triggered the emotion (Question 6). The second page of the diary asks the teacher if there were any autonomic accompaniments with the emotion (Question 9), intrusive thoughts (Question 10), and what actions or urges were prompted by the emotion (Question 11). Lastly, the teacher is asked to specify the time of occurrence, date (Question 12) and duration (Question 13) of the emotion episode.

The diary primes a teacher to be aware of her feelings and scaffolds a teacher to talk about how she feels, and why she feels that way (Oatley and Duncan, 1992). As a result, the method could invoke an evaluative orientation [Section 3.2.2] in a teacher who is inattentive towards her feelings. In order to maintain the integrity of the object [Section 3.2.2] it was important to not only prime and scaffold a teacher for the method to be successful, but to allow the method to be unsuccessful. For example, it was important to



recognize Julia's recording of an intense emotional episode to do with her Year 11 class, rather than Year 10 class, to better understand her attentiveness towards strong feelings [EDE2008.08.07]. It was important to recognize Julia's recording of an incident to do with home, rather than school, to better understand her construal of the school as professional and home as emotional [EDE2008.09.08].

### **3.5.3 Meta-Emotion and Semi-Structured Interviews**

A third research method in this study is meta-emotion and semi-structured interviews. I adapted the meta-emotion interview from Gottman, Katz, and Hooven's (1997) meta-emotion interview. In addition, I drew upon Zembylas (2002) to modify the interview for the context of the science classroom, and Hochschild (1983) to extend the interview to include additional questions on emotion regulation. I adapted the semi-structured interview from Oatley and Duncan (1992) and O'Toole's (2005) semi-structured interview. I conducted both interviews during one interview session. In total there were four interview sessions per teacher carried out over a period of one month following the classroom observations. The interview sessions were each forty minutes and have been transcribed at a 'lexical' level [Section 3.5.1].

#### **1. Meta-Emotion Interviews**

I selected feelings from the field notes and diary entries for the meta-emotion interviews. In addition, I used Martin and White's (2005) typology of affect to categorize these feelings according to the three major sets of feelings: un/happiness, in/security and dis/satisfaction [Section 2.2.2]. I then used these sets of feelings to investigate the teachers' thoughts and feelings for more than one specific emotion per interview. For example: For the third interview, I interviewed the teachers on the category dis/satisfaction investigating the teachers' thoughts and feelings for each of the following specific emotions: anger, frustration and irritation. The three sets of emotions, and their

specific emotions, for interview sessions ‘a’ to ‘d’ for Julia, and ‘i’ to ‘iv’ for Lydia, are outlined below:

<i>Interview transcript (IT)</i>	<i>Set of emotions</i>	<i>Emotions</i>
ITa and i	un/happiness	happiness, sadness, love, dislike
	in/security	trust, distrust
ITb and ii	dis/satisfaction	interest, boredom, pleasure, displeasure
ITc and iii	dis/satisfaction	anger, frustration, irritation
ITd and iv	in/security	confidence, anxiety, pride, guilt

*Figure 3.5.3-I* The sets of emotions for the four meta-emotion interviews

Interviewing the teachers on more than one specific emotion per interview differs from the approach taken by Gottman, Katz, and Hooven (1997) who interview parents on one emotion, e.g. feelings of “sadness” (p. 49) or “anger” (p. 67), per meta-emotion interview. I adopted this approach to gain insight into the teachers’ appraisal of a broad range of specific emotions that had emerged as significant from the field notes and diary entries [Section 3.5.2]. Investigating a teacher’s experience of a broad range of specific emotions by modifying the interview in this way addresses a call to examine “specific emotions as experienced by teachers” (Pekrun and Schutz, 2007, p. 323; see also Weiner, 2007).

A copy of the meta-emotion interview is provided in Appendix D. The meta-emotion interview investigates a teacher’s feelings about feelings, i.e. her meta-emotion philosophy (Gottman, Katz, & Hooven, 1997, p. 7) (Part I). It looks at the role of specific emotions in connection with teaching and learning electricity and motion in this study (Part II). It examines a teacher’s emotions over time looking at them at particular historical moments throughout a unit of work and the teacher’s career (Part II) [Section 2.4.3]. It investigates a teacher’s awareness of her feelings (Part I), as well as her awareness of the learners’ feelings by asking the teacher to describe her learners’ emotion-expressive behaviour (Part III). Lastly, it addresses the regulation of emotions (Part IV) [Section 2.3.2].

This study, similar to Hargreaves (2005), encountered difficulties in encouraging the teachers to talk directly about named emotions. The difficulties encountered though were particular to each teacher owing to differences in their emotion philosophies for specific emotions. Whereas Lydia saw a place for feelings of frustration in the classroom, Julia did not [Section 4.6 and 4.3]. Whereas Julia saw a place for feelings of guilt in the classroom, Lydia did not [Section 4.3 and 4.4]. As a result, it was important to respond differently to each teacher. For example: I expanded the dialogue to include Julia's feelings of frustration for aspects that did not pertain to teacher-learner interaction. I encouraged Lydia to talk more about feelings that she did see as having a place in the classroom than feelings she did not.

## 2. Semi-Structured Interviews

I interviewed the teachers on two main emotion episodes for each semi-structured interview which I selected from the field notes and diary entries. The reported feelings in the emotion diary entries for the emotion episodes investigated in semi-structured interview 'a'-'d'/'i'-'iv' correspond to the sets of feelings examined in meta-emotion interview 'a'-'d'/'i'-'iv' (*Figure 3.5.3-I* above). Six of the eight emotion episodes for Julia, and seven of the eight emotion episodes for Lydia had a corresponding video clip. Before each semi-structured interview the teachers watched the relevant video clips. The sources of data, feelings, and contents of these feelings for the emotion episodes examined are outlined in *Figure 3.5.3-II* and *III* below.

<i>Interview transcript (IT)</i>	<i>Source</i>	<i>Emotion</i>	<i>Contents</i>
ITa	EDE for Ac	Sadness	Learner cheats
	EDEf	Elated	Newly arrived learner participates
ITb	EDEp	Learners' interest	Learners' work ethic
	EDEt	Boredom	A science practical investigation
ITc	EDE2008.08.07	Anger	Year 11 learner disobeys instructions
	EDE2008.08.22	Frustration	The curriculum content

ITd	EDE for Ab	Pride	The learners' post test
	EDEr	Pride	Learners complete difficult worksheet

*Figure 3.5.3-II* The emotion episodes selected for the semi-structured interviews with Julia

<i>Interview transcript (IT)</i>	<i>Source</i>	<i>Emotion</i>	<i>Contents</i>
ITi	LTxii4-22	Concern	A low achieving learner neglects her homework
	EDEvii	Dislike	Learners are rude
ITii	LTvi44-52	Learner's interest	A learner prepares flashcards of her own accord
	EDExii	Satisfaction	A science practical investigation
ITiii	EDEiii	Frustration	The learners aren't given the opportunity to work at level 'Excellence'
	LTxviii472-506	Frustration	Two learners chatting
ITiv	EDE for Aii	Pride	The learners' post test
	FNxiv	Pride	The learners' aprons

*Figure 3.5.3-III* The emotion episodes selected for the semi-structured interviews with Lydia

In addition to the two main emotion episodes for each interview session I prepared additional emotion episodes to be explored. It was important to do so on account of the different periods of time it took to examine an emotion episode for each teacher due to their different abilities to communicate their feelings. Selected examples of these emotion episodes are outlined in *Figure 3.5.3-IV* and *V* below. Interviewing the teachers on emotion episodes that took place during a lesson was useful as it gave access to their thoughts and feelings at the time of their teaching, and enabled an investigation into their feelings by reference to the complexity of the classroom interaction (Lyle, 2003). In addition, the interviews provided a correlation between the teachers' descriptions of the

emotion episodes and the episodes as they unfolded in the classroom interaction (Mead & McMeniman, 1992).

<i>Interview transcript (IT)</i>	<i>Emotion episodes</i>
ITa	Julia's application to teach at primary school
ITb	Her role-acting in front of the class
ITc	Her appraisal of the curriculum as assessment-driven
ITd	Her expression of not being able to 'give everything' to the unit

*Figure 3.5.3-IV* Selected examples of additional emotion episodes chosen for the interviews with Julia

<i>Interview transcript (IT)</i>	<i>Emotion episodes</i>
ITi	Lydia's distribution of an article to the staff
ITii	Her efforts to find out about the learners' previous class
ITiii	Her reorganization of the learners' seating arrangement
ITiv	Her engagement with the learners during a test

*Figure 3.5.3-V* Selected examples of additional emotion episodes chosen for the interviews with Lydia

A copy of the semi-structured interview is provided in Appendix E. In addition to prompting the teacher to elaborate on questions included in the science teaching emotion diary [Section 3.5.2], the semi-structured interview examines the teacher's thoughts during the emotion episode (Question 9), and her thoughts and feelings on the emotion itself (Question 10). It looks at whether the emotion episode changed the way the teacher sees herself (Question 11), and if the emotion episode reminds the teacher of an incident in the past (Question 12) tracing the genealogies of emotions [Section 2.4.3]. It inquires about the duration of the thoughts for the episode, their recurrence (Question 13) and if the emotion affected plans (Question 15). Lastly, it asks if the teacher understood the emotion (Question 16).

### 3.5.4 Journal

A fourth research method in this study is a journal which I used to record the process of theory development in this study. The “cycles of theory development and theory testing” (Schutz, Cross, Hong, & Osbon, 2007, p. 235) involved developing a language of description to talk about the interaction between three main levels, namely evaluation, relations and subjectivity, for two models of emotion. For example: A ‘two-way process of analysis’ [Section 3.6] revealed a distinction needed to be made between two types of “*emotional rules*” (Zembylas, 2002, p. 93). In the iterative process of theory development I came to refer to the one as an ‘ideological’ emotional principle, and the other as an ‘axiological’ one. There are approximately two hundred and fifty pages of journal entries.

## 3.6 Analysis of the Data

### 3.6.1 Synthesizing Classificatory Systems

In line with Martin and White (2005), I work with “meaning beyond the clause” (p. 9), or texts in this study in the investigation of the role of a teacher’s emotions in teaching and learning science (see also Martin, 2003; Martin, 2004a; Martin & Rose, 2003) [Section 2.1.1]. I gain access to the meaning of discourse forms by examining relations or “logogenetic contingencies” among them (Martin, 2003, p. 177). Discourse forms, such as words, phrases or sentences, do not ‘have’ meanings, but a range of potential meanings (Lemke, 1998b, p. 1181). Meanings are derived not only from the presence, absence or co-occurrence of resources, but the positioning, distribution and co-articulation of resources as well (Hood, 2004):

It is texts that mean, through their sentences and the complex of logogenetic contingencies among them – they do not mean as a selection from, or a sum of, or worse, an average of, the meanings within the clause. (Martin, 2003, p. 177) (see also Martin, 2004a)

I start with the emotional life of Julia and Lydia in my approach to the theory and empirical data in this study. I begin with their way of perceiving the world, their goals, their abilities and their ways of coping in developing a model of analysis that will give insight into these various dimensions. Preliminary analyses revealed intriguing findings in this regard. For example: Julia valued in-depth relationships and applied to teach at primary school in order to develop more intimate relationships. In contrast, Lydia valued relationships and sewed with learners from different year levels during interval to develop bonds. This study aims to get at the rules, or emotional principles, underlying their behaviour:

We have to start from human beings and their abilities, from their ways of perceiving the world, of having goals, of being oriented towards each other, of always negotiating meaning and understanding. The world is complex and infinite from the eye of different perceivers. There must be some relatively simple principles at our disposal which we can use as guidelines in our dialogic behaviour. It is these principles we are trying to discover and verify using authentic examples. (Weigand, 2000, p. 16)

Following the call of Sarangi (2003) for discourse analysis to have a goal beyond classification and description, I did not want to neglect the findings in the above-mentioned example, and other findings of social and practical relevance. As a result, I needed to approach the empirical data and theory in a manner that worked towards achieving this goal. This approach involved working with extensive amounts of data and synthesizing various frameworks. In line with the basis of discourse analysis, namely “*comparison*” (Lemke, 1998b, p. 1176), I selected data excerpts or frameworks on the principled basis that they revealed how the one teacher stands in relation to the other:

Human communities and cultures are often more interesting for what is unique to them than for what they all have in common. Moreover, one of the important properties of any class *is* precisely the specification of how the members of the class differ from one another. (Lemke, 1998b, p. 1184)

In the first instance, I approach the empirical data and theory by examining relations at multiple levels. In order to do so I use text/ discourse “*synthesis*” (Sarangi, 2003, p. 169)

to map out a “*multilevel*” theory (Pekrun & Schutz, 2007, p. 319) [Section 2.1-2.5]. An outline of this theory is provided in *Figure 3.6.1-I* below. In terms of horizontal relations the three principal levels are the three characteristics of an emotional principle, namely: evaluation, relations and subjectivity. As discussed in 2.1-2.5 I have drawn upon different frameworks for each of these characteristics. For example: For the characteristic of evaluation a multicomponential model of emotion outlines the importance of value and control to the emergence of emotions, and the relationship between these appraisals and the intensity of emotions.

In terms of vertical relations the two principal levels are the two types of emotional principles, namely: an ‘ideological’ and ‘axiological’ emotional principle. I make a distinction in this study between these two principles addressing a need for the convergence of models in linguistic methodology. In this regard Sarangi (2003) states “In the context of the evaluative function of language, there is a need for the coming together of different descriptive and classificatory systems” (p. 169). As explained in 2.5, I extend upon and refine the language of description for the levels and sub-levels of the framework for an ‘ideological’ and ‘axiological’ emotional principle. For example: For evaluation I distinguish appraisals concerning a high or low degree of value (i.e. high/low), and those that operate on a cline (i.e. high-low).

A ‘multilevel’ theory that synthesizes different frameworks is important in this study due to its emphasis on verbal data. Few studies that draw upon “appraisal theory” (Martin & White, 2005, p. xi) [Section 2.2.2] investigate verbal data. Exceptions include Bednarek (2008), Eggins and Slade (1997) and Martin (2000b). Systems, such as ‘primary relations of space’ [*Figure 3.6.1-I*], have shown to be important in this study for research into verbal data. Julia, Lydia and the learners’ bodily movements invoked evaluations, and together with the inscriptions that act as ‘sign-posts’ telling an analyst how to read these movements [Section 2.2.2], were important tools for understanding “more exactly what was going on” (Lemke, 1998b, p. 1185) in an emotional episode:



One anonymous referee has remarked that most of the work in appraisal theory so far has been done on written texts, and that it seems likely that in spoken discourse additional systems...have an effect, both on the way in which speakers take advantage of speaking positions and on the way in which an analyst interprets these positions...The question of what adjustments need to be made to appraisal theory to make it suitable for spoken interaction will have to be answered in future research. (Simon-Vandenberg, 2004, p. 420)

<i>Characteristic of emotional principle</i>	<i>Framework</i>	<i>Component of framework</i>	<i>'Ideological' emotional principle</i>	<i>'Axiological' emotional principle</i>
<i>Evaluation</i> [Section 2.2]	Multicomponential model of emotion	Value	High/ low	High-low
		Control	High/ low	High-low
		Intensity of feelings	Strong feelings	Graded feelings
<i>Relations</i> [Section 2.3]	Relations between	Classification	Strong classification	Weak classification
	Relations within	Framing	Strong framing	Weak framing
	Internal and external relations		Macro orientation	Micro orientation
	Primary relations of space and time		Recontextualization (focus: macro level)	Recontextualization (focus: micro level)
<i>Subjectivity</i> [Section 2.4]	Tri-stratal framework	Intrapersonal level	High/ low degree of personal control	High-low degree of personal control
		Interpersonal level	High/ low action-outcome expectancy	High-low action outcome expectancy
		Political/ communal	High/ low degree of participation	High-low degree of participation
	Genealogies of emotions		Structure orientation	Process orientation

*Figure 3.6.1-I* The ‘multilevel’ model of analysis

Secondly, I approach the empirical data and theory in this study by examining relations at an “intraindividual” and “interindividual” level (Lazarus, 1999, p. 114). I perform rhetorical interaction analysis (Lemke, 1998b) by examining the process of engagement by Julia and Lydia with alternative socio-semiotic positions in the teaching and learning of the meaning systems of a culture [Section 2.4]. Following Lemke (1998b) I look for repeated patterns within the empirical data pertaining to this process of engagement, and strategies that create variation on these patterns (see also Campos, Frankel, & Camras, 2004). I do so to get at the underlying rules for teachers’ emotional practices:

Useful questions guide rhetorical analysis. What are these people trying to accomplish here? What are they doing to or for one another? How is the talk ratifying or changing their relationships? How is it moving the activity along? How is it telling me what the speaker/ writer's viewpoint is? What is it assuming about my viewpoint and other viewpoints? How does it situate itself in relation to these other viewpoints? (Lemke, 1998b, p. 1181)

At the level of text a “two-way process of analysis” (Hood, 2004, p. 70) is an important validating tool that involves in this study moving back-and-forth between the levels of a ‘multilevel’ theory using the one to interrogate the other. I adopt this strategy for the levels and sub-levels shown in *Figure 3.6.1-1* above at an *intraindividual level*, *interindividual level*, and for *the relation between theory and data*. An examination of the interactions between levels enables “interactional” reliability, or seen differently a study of the relations between texts enables “intertextual” reliability (Sarangi, 2003, p. 186). Interactional and intertextual reliability enable “cross-validation”, “cumulative evidence building” and a “responsive framework” (Sarangi, 2003, p. 169). Sarangi (2003) refers to this as “[s]ynthesis” (p. 169).

Interactional and intertextual reliability are important in rhetorical interaction analysis as an analyst must deal with situations that are unique to a text more often than in semantic content analysis (Lemke, 1998b). For example: Julia articulates a preference for the term ‘affection’ rather than ‘love’ in the study to describe her feelings for the learners [ITa38], whereas Lazarus (1991) regards “*affection*” and “*love*” as “more or less the same emotional state” (p. 274). In order to gain access to the meaning of ‘affection’ for Julia I examine the manner in which she follows up the use of the term ‘affection’ as advocated by Lemke (1998b). In the examination of repeated patterns in the empirical data I interpret her selection of the term ‘affection’, in lieu of ‘love’, to be due to a preference for “distance”, rather than “intimacy” (Bernstein, 2000, p. 156). At an intraindividual level, for example, interactional and intertextual reliability are important for strengthening this interpretation: Julia’s appraisal of the school as ‘professional’ [ITa234], the presence of regulatory boundaries in terms of space and the formation of a pedagogic communication contracted to activities concerning ‘home’ provide cross-

validation between the levels of evaluation, relations and subjectivity and cumulative evidence building for the interpretation given. In line with Lemke (1998b) I treat Julia's articulation of her 'intention' behind the use of 'affection', namely that 'love' is 'slightly too strong a word' [ITa36], as only one more piece of evidence. The importance of doing such is evident in the interview when she deliberates on whether or not to use the term 'love' or 'affection' to describe her feelings towards a learner, saying 'Well, see I want to call that love again. But, I guess that's like affection for her' [ITa116]:

...rhetorical analysis must deal with situations unique to the text at hand more often [than semantic content analysis], and these are more ambiguous and subject to different interpretations. In these cases, the multiple forms of evidence needed to support interpretations include word choice, intonation, grammatical choice and contextual information about the situation or activity. Even the participants in a discourse could disagree about the rhetorical meanings of particular features, or change their minds in retrospect or with additional information. The 'intention' of the speaker, as revealed in a retrospective interview, is just one more piece of data; it does not settle the question of what a feature meant for any participant at the time. Evidence of how participants followed up the appearance of the feature might be more persuasive. (Lemke, 1998b, p. 1181)

Interactional and intertextual reliability are also important for accessing 'invoked' evaluations. As discussed in 2.2.2 it is important to consider 'invoked' evaluation to more fully account for the potential of a text to elicit an emotional response. Recognizing 'invoked' evaluation that facilitates, if not encourage a range of readings (Martin & White, 2005), "creates something of a coding nightmare, especially for qualitative analysts" (Martin, 2003, p. 173). Interactional and intertextual reliability enable a researcher to access the naturalized position of a text which informs the reading of 'invoked' evaluation. In this regard, Martin (2003) says "if we can access [the naturalized position] through appropriate ethnography then we are in a stronger position to reach agreement about implied evaluations" (p. 173). In addition, Sarangi (2003), states:

The challenge at the micro-analytic level is one of tracing the multi-layered tastes and flavours in the Bakhtinian sense and then of attributing them a value category. Where does one trace stop and the other begin? How deep does one have to dig to be able to recognize direct as opposed to indirect evaluations or explicit as opposed to implicit reports? The so-called inter-rater reliability exercises may

take us somewhere, but at the level of text and discourse, we need to look for what may be called intertextual or interactional reliability. (p. 168)

Thirdly, I approach the empirical data and theory in this study by examining relations over extended periods of time. It was necessary to repeatedly follow up on emotion episodes that took place for several weeks in order to examine the emotion generation process as a person/ place/ object was, for example, appraised negatively and then subsequently reappraised positively weeks following the initial event. It was important to do so to distinguish reappraisal (focus: macro level)/ reappraisal (focus: micro level) [Section 2.3.2], recontextualization (focus: macro level)/ recontextualization (focus: micro level) [Section 2.3.1], emotions marked by structure/ emotions marked by process [Section 2.4.3], and to determine repeated patterns within the data concerning favoured coping strategies [Section 2.3.2]:

Research on the coping process requires an intraindividual research design, nested within interindividual comparisons...Several individuals must be compared to avoid dependence on a single case. It is the only way to observe how much change and stability is found in what is happening within any individual across conditions and over time. The best generic research design for this kind of research is *longitudinal*. (Lazarus, 1999, p. 114)

Fourthly, I approach the empirical data and theory in this study by examining inconsistent semantic choices. As discussed in 3.2.2 it was important in this study to maintain the integrity of the object by acknowledging various positions: the ‘ideal’, ‘non-ideal’ and ‘ideal’ to varying degrees (i.e. ‘ideal-non-ideal’) [Section 2.3.3]. As a result, in the data interpretation and analysis, I direct my attention towards texts that are ‘ideal’, “representative” (Kress, Jewitt, Ogborn, & Tsatsarelis, 2001, p. 39) or “whole” (Christie, 2002, p. 23), *and* those that are ‘non-ideal’, as well as ‘ideal’ to varying degrees. I work within “phases” of discourse characterized by congruent and consistent semantic choices (the ‘inner’) (Gregory and Malcolm, as cited in Macken-Horarik, 2003a, p. 289), and without “clear-cut closed systems” (the ‘outer’) (Weigand, 2000, p. 2). I recognize the “suppressed contradictions, cleavages and dilemmas” (Bernstein, 2000, p. 7) that emerge from a weakening of the classification [Section 2.3.1], and the “creative games” (Weigand, 2000, p. 6) that shape a teacher’s emotional practice. In order to direct my

attention towards the ‘inner’ and ‘outer’ in the data interpretation and analysis in this study, i.e. ‘ideal’ feelings, ‘non-ideal’ feelings and feelings that are ‘ideal’ to varying degrees, it was important to acknowledge the “unity” (Lemke, 1995, p. 90) of ‘inner’ and ‘outer’ semiotic practices. It was important to recognize that ‘inner’ semiotic practices (e.g. the language of the food and fabric design classroom at Verda Girls’ High) and ‘outer’ semiotic practices (e.g. the language of the science classroom at Verda Girls’ High) are “part of the same total system of meaningful practices” (Lemke, 1995, p. 90):

There is no autonomous semantics of thought, no separate *lingua mentis*, apart from that of social meaning generally. We ‘think’ non-verbally with the same semiotic resources for meaningful action, be they those of our grammar of visual representation, the forms of body hexis meaningfully available in our community, or the semiotic resources of any other activity structure, which are the same ones also observable in outward action... The same sort of analysis is appropriate for sensation and feeling, whether light or heat, pain or anger. Until the unity of ‘inner’ and ‘outer’ semiotic practices is recognized, it is not likely that much progress will be made in understanding the ‘inner’, which are so much harder to reconstruct from indirect evidence than are the ‘outer’. (Lemke, 1995, p. 90)

### 3.6.2 Synthesizing ‘Couplings’ of Meanings

In 3.6.1 I outlined the approach to the data and theory in terms of the “*relay*” (Bernstein, 2000, p. 25). I explained the manner in which I looked for repeated patterns within the data, and strategies that created variation on these patterns, by examining relations at an intraindividual level, interindividual level and between theory and data, in order to map out two types of “descriptive and classificatory systems” (Sarangi, 2003, p. 169). In the following section I look at the approach taken in terms of the “*relayed*” (Bernstein, 2000, p. 25). In the data interpretation and analysis four “couplings” (Martin, 1997, p. 25) of interpersonal and ideational meanings emerged as significant. The four categories emerged in the ‘two-way process of analysis’ [Section 3.6.1] at an intraindividual level, interindividual level and for the relation between theory and data. For example: In terms of the ‘two-way process of analysis’ between theory and data I drew upon a model that categorizes behaviour according to the following four types: “analytical”, “driving”, “amiable” and “expressive” (Merrill & Reid, 1981, p. 60; see also Bolton & Grover

Bolton, 1984). In brief, the four ‘couplings’ of meanings that emerged in the data interpretation and analysis concern competence, achievement, connection and balance and are referred to as ‘mastery’, ‘performance’, ‘rapport’ and ‘holism’, respectively. In addition, the ‘couplings’ of meanings are referred to as emotional investments in this study to emphasize the ‘affective’ and ‘informational’, or “material” (Lemke, 1995, p. 8), components of speech [Section 2.1.1].

In the data interpretation and analysis in this study I select “analytical units” (Kress, Jewitt, Ogborn, & Tsatsarelis, 2001, p. 38) to do with the four ‘couplings’ of meanings, namely: mastery, rapport, performance and holism. In the selection of analytical units I aim to maintain the integrity of the object [Section 3.2.2]. In order to do so in the examination of a teacher’s ascriptions of worth and controllability, formation of relations between categories and building of the pedagogic communication I select data excerpts that include the transition point between two analytical units. By adopting this approach to the “segmentation” (Lemke, 1998b, p. 1183) of the data I am able to examine whether start or end markers of analytical units involve “[g]ross” shifts in “posture”, “position”, “communicative mode” and “content” (Kress, Jewitt, Ogborn, & Tsatsarelis, 2001, p. 38), or more subtle shifts for the one teacher in relation to the other. In line with rhetorical analysis, I am also able to look at whether an analytical unit is marked by stronger or weaker classification for Julia in relation to Lydia at different organizational levels of the text (Lemke, 1998b). For example: In terms of relations within the pedagogic context, or ‘internal’ relations [Section 2.3.1], I selected data excerpts to do with mastery in A (e.g. ‘scientific’ knowledge) *and* holism in A (e.g. ‘everyday’ knowledge) [Section 2.2.3]. In terms of relations between the pedagogic context, and context external to it, or ‘external’ relations [Section 2.3.1], I selected data excerpts to do with mastery in A (e.g. physics) *and* mastery in B (e.g. physical education). Lastly, I am able to investigate whether the pedagogic communication acts on the meaning potential (e.g. mastery, performance, rapport and holism) in an enhancing or restricting manner addressing a need to do research into the negotiation or non-negotiation of goals:

Although many studies have been set up to study the achievement and social goals that students pursue in the classroom, little is known about the conflicts that may arise when students strive to attain multiple goals *simultaneously*, such as achievement and tranquility goals, or belongingness and mastery goals. (Boekaerts, 2007, p. 45)

I provide illustrative realizations for the four ‘couplings’ of interpersonal and ideational meanings below. I begin by mapping out the terrain of interpersonal and ideational according to the classificatory systems outlined in 2.2.2. As discussed in 2.2 an ‘ideological’ emotional principle involves the selection *or* non-selection of meanings organizing meanings as systems of oppositions. I map out the appraisals as oppositions in *Figure 3.6.2-I to IV*. For an ‘ideological’ emotional principle, an activity is ‘easy’ *or* ‘hard’, for example. An ‘axiological’ emotional principle involves the selection *and* non-selection of meanings organizing meanings as systems of complementarities. To provide an example, I map out the appraisals for mastery as complementarities in *Figure 3.6.2-V* below using a dotted line to indicate an appraisal that is both positive *and* negative. For an ‘axiological’ emotional principle, an activity is ‘easy’ *and* ‘hard’ to varying degrees, for example.

*A*

<i>Interpersonal meanings</i>	<i>Positive</i>	<i>Negative</i>
<i>Judgement</i> [Section 2.2.2]	‘qualified’ [ITi216], ‘competent’ [ITi216], ‘focused’ [ITc8]...	‘limited’ [FNe], ‘inadequate’ [ITc82], ‘thick’ [ITiii136]...
<i>Appreciation</i> [Section 2.2.2]	‘easy’ [LTe354], ‘perfect’ [LTp115], ‘ <u>neat looking</u> line graph’ [LTm354]...	‘hard’ [LTe354], ‘nasty’ [LTq75], ‘ <u>flashy</u> words’ [LTg140]...

*B*

<i>Ideational meanings</i>	‘flashcards’ [LTxvii374], ‘data’ [LTm357], ‘resistor’ [LTiii46]...
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*Figure 3.6.2-I* The organization of interpersonal and ideational meanings as oppositions for an emotional investment in mastery

A

<i>Interpersonal meanings</i>	<i>Positive</i>	<i>Negative</i>
<i>Judgement</i>	‘caring’ [ITb133], ‘honest’ [ATc day1], ‘she’s even really <u>nice</u> to me around the school’ [ITc8]...	‘horrible’ [ITa214], ‘bitchy’ [ITa214], ‘evil’ [ITc62]...
<i>Appreciation</i>	‘ <u>in-depth</u> relationships’ [ITa242], ‘a <u>safe</u> place’ [ITi146], ‘a very <u>pleasant</u> experience’ [LTf40]...	‘a <u>rough</u> time’ [ITi146], ‘a really <u>bad</u> patch’ [ITi146], ‘ <u>negative</u> relationships’ [ITa222]...

B

<i>Ideational meanings</i>	‘boyfriend’ [ITiv96], ‘ski field’ [ITiii132], ‘cake’ [LTv18]...
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Figure 3.6.2-II The organization of interpersonal and ideational meanings as oppositions for an emotional investment in rapport

A

<i>Interpersonal meanings</i>	<i>Positive</i>	<i>Negative</i>
<i>Judgement</i>	‘geniuses’ [LTc147], ‘smart’ [LTv70], ‘quite <u>capable</u> ’ [ITiii8]...	‘lazy’ [ITiv92], ‘ <u>weak</u> student’ [ITiv108], ‘failing’ [ITiv92]...
<i>Appreciation</i>	‘ <u>good solid</u> mark’ [LTk40], ‘[your tests] were <u>fantastic</u> ’ [LTv8], ‘[the test] is really <u>important</u> ’ [LTp81]...	‘the <u>hardest</u> question’ [LTxviii167], ‘ <u>hard</u> answers’ [LTq240], ‘ <u>same old</u> assessment’ [EDEt]...

B

<i>Ideational meanings</i>	‘pop quiz’ [LTb1], ‘common test’ [LTp81], ‘reports’ [LTp81]...
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Figure 3.6.2-III The organization of interpersonal and ideational meanings as oppositions for an emotional investment in performance

A

<i>Interpersonal meanings</i>	<i>Positive</i>	<i>Negative</i>
<i>Judgement</i>	‘silly’ [ITc20], ‘ <u>whole</u> person’ [ITa240], ‘crazy’ [LTn278]...	‘responsible’ [LTp282], ‘mature’ [LTp282], ‘grown up’ [LTp280]...
<i>Appreciation</i>	‘ <u>fundamental</u> level’ [ITa240], ‘fun’ [LTxix265], ‘freer’ [ITii142]...	‘orderly’ [LTxix266], ‘ <u>specific</u> things’ [ITii142], ‘ <u>abstract</u> stuff’ [ITc120]...

B

<i>Ideational meanings</i>	‘Go Show’ [LTf231], ‘playtime’ [LTxv251], ‘primary [school]’ [ITii142]...
----------------------------	---

Figure 3.6.2-IV The organization of interpersonal and ideational meanings as oppositions for an emotional investment in holism



<i>A</i>		
<i>Interpersonal meanings</i>	<i>Positive</i>	<i>Negative</i>
<i>Judgement</i>	‘qualified’ [ITi216], ‘competent’ [ITi216], ‘focused’ [ITc8]...	‘limited’ [FNe], ‘inadequate’ [ITc82], ‘thick’ [ITiii136]...
<i>Appreciation</i>	‘easy’ [LTe354], ‘perfect’ [LTp115], ‘neat looking line graph’ [LTm354]...	‘hard’ [LTe354], ‘nasty’ [LTq75], ‘flashy words’ [LTg140]...
<i>B</i>		
<i>Ideational meanings</i>	‘flashcards’ [LTxvii374], ‘data’ [LTm357], ‘resistor’ [LTiii46]...	‘pop quiz’ [LTb1], ‘common test’ [LTp81], ‘reports’ [LTp81]...

*Figure 3.6.2-V* The organization of interpersonal and ideational meanings as complementarities for an emotional investment in mastery

Secondly, I map the interpersonal and ideational meanings on the schematic representation of the emotional practice introduced in this study to extend upon and refine the notion of ‘relations between’ and ‘within’. As discussed in 2.3 an ‘ideological’ emotional principle realizes ‘relations between’ and ‘within’ marked by strong classification and framing. It involves, from a dialogic perspective, an alignment *or* disalignment to socially-determined value positions. I use continuous lines to indicate strong boundaries for classification, and shading to represent ‘presences’ and ‘absences’ for framing [*Figure 3.6.2-VI*]. An ‘axiological’ emotional principle realizes ‘relations between’ and ‘within’ marked by weak classification and framing. It involves, from a dialogic perspective, the negotiation of a relationship of alignment-disalignment to socially-determined value positions. I use dotted lines to indicate weak boundaries for classification and represent ‘presences’ through the absence of shading for framing [*Figure 3.6.2-VII*].

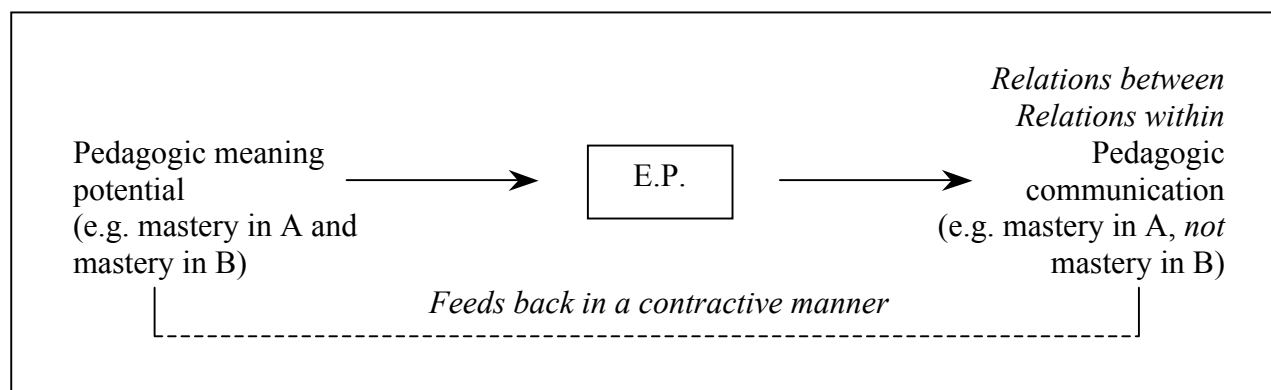
<i>Mastery</i>  <i>Interpersonal meanings</i> Judgement: ‘analytical’,... Appreciation: ‘meticulous’,...  <i>Ideational meanings</i> A graph,...	<i>Rapport</i>  <i>Interpersonal meanings</i> Judgement: ‘loving’,... Appreciation: ‘deep’,...  <i>Ideational meanings</i> A casual conversation,...
<i>Performance</i>  <i>Interpersonal meanings</i> Judgement: ‘productive’,... Appreciation: ‘precise’,...  <i>Ideational meanings</i> A pop quiz,...	<i>Holism</i>  <i>Interpersonal meanings</i> Judgement: ‘playful’,... Appreciation: ‘original’,...  <i>Ideational meanings</i> A simulation game,...

Figure 3.6.2-VI ‘Relations between’ and ‘within’ marked by strong classification and framing for the four ‘couplings’ of meanings

<i>Mastery</i>  <i>Interpersonal meanings</i> Judgement: ‘analytical’,... Appreciation: ‘meticulous’,...  <i>Ideational meanings</i> A graph,...	<i>Rapport</i>  <i>Interpersonal meanings</i> Judgement: ‘loving’,... Appreciation: ‘deep’,...  <i>Ideational meanings</i> A casual conversation,...
<i>Performance</i>  <i>Interpersonal meanings</i> Judgement: ‘productive’,... Appreciation: ‘precise’,...  <i>Ideational meanings</i> A pop quiz,...	<i>Holism</i>  <i>Interpersonal meanings</i> Judgement: ‘playful’,... Appreciation: ‘original’,...  <i>Ideational meanings</i> A simulation game,...

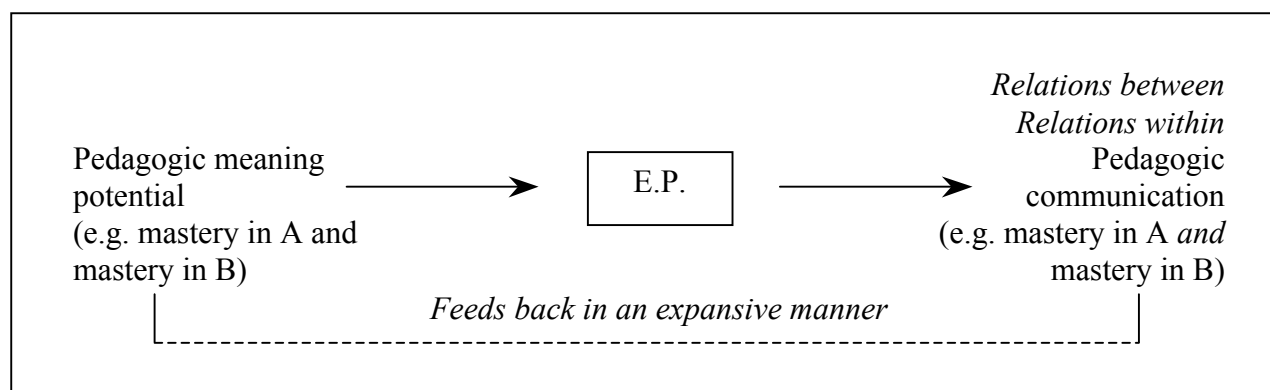
Figure 3.6.2-VII ‘Relations between’ and ‘within’ marked by weak classification and framing for the four ‘couplings’ of meanings

Lastly, I map out the interpersonal and ideational meanings on the schematic representation of the building of the pedagogic communication to extend upon and refine the notion of the pedagogic communication for the emotional practice. As discussed in 2.4.1 an ‘ideological’ emotional principle builds a pedagogic communication, or pedagogic subject, that feeds back on the meaning potential in a contractive manner. I illustrate the manner in which the pedagogic communication acts accordingly for mastery in A (e.g. physics) and B (e.g. physical education) in *Figure 3.6.2-VIII* below. An ‘axiological’ emotional principle builds a pedagogic communication, or pedagogic subject, that feeds back on the meaning potential in an expansive manner. I similarly illustrate the manner in which the pedagogic communication acts accordingly for mastery in A (e.g. physics) and B (e.g. physical education) in *Figure 3.6.2-IX* below.



KEY E.P. = Emotional Principle

*Figure 3.6.2-VIII* The building of a pedagogic communication that acts in a contractive manner on mastery in A and B (Adapted from Bernstein, 2000, p. 26)



KEY E.P. = Emotional Principle

*Figure 3.6.2-IX* The building of a pedagogic communication that acts in an expansive manner on mastery in A and B (Adapted from Bernstein, 2000, p. 26)

### 3.7 Summary of the Methodology

In chapter 3 I provided the motivation behind this study and outlined the theories, strategies and methods adopted. In brief, the purpose of this study is to examine the implications of an ‘ideological’ and ‘axiological’ emotional principle in the building of a ‘linear’ and ‘non-linear’ model of emotion for two teachers. In line with the comparative basis of discourse analysis, I select Julia and Lydia because of their different emotion philosophies. I explained the rationale of the study to the teachers at the start of the study and reassured them that I was interested in those features that were unique to their practice. In order to provide a complex and in-depth account of the ‘emotional lives’ of the teachers I adopt multiple methods in this study. These include: an analysis of classroom interaction, a science teaching emotion diary, meta-emotion and semi-structured interviews, and a journal.

I approach the empirical data and theory with the aim of giving insight into the dialogic behaviour of Julia and Lydia regarding issues of social and practical relevance that arose early on in the study. Towards this goal, I work with extensive amounts of data and perform text/ discourse synthesis to bring together multiple frameworks. (I select the data excerpts/ frameworks according to the principled basis that they reveal how the one

teacher stands in relation to the other.). In terms of the ‘relay’, I examine patterns, commonality and relationships (Lemke, 1995) at an intra- and interindividual level across conditions and over extended periods of time. I recognize the unity of ‘inner’ and ‘outer’ semiotic practices, and examine both consistent and inconsistent semantic choices. In terms of the ‘relayed’, I focus upon the categories of mastery, rapport, performance and holism that emerged as significant in the analysis.

The various components of the methodology outlined above are informed by the theoretical framework for this study. In explaining the theories, strategies and methods adopted in this study, I outlined several aspects of this theoretical framework. In brief, the model of analysis can be described as: discursive, expanded, comprehensive, ‘recipient-designed’, holistic and explicit. I summarize these aspects in *Figure 3.7-I* below together with the call in the literature for these items to receive attention in theory development. For example: In line with the ‘holistic’ nature of the model, I recognize the unity of ‘inner’ and ‘outer’ semiotic practices in the approach to the data analysis and interpretation. As a result, I recognize not only consistent, but inconsistent semantic choices, acknowledging the “suppressed contradictions, cleavages and dilemmas” that emerge from a weakening in the classification (Bernstein, 2000, p. 7), and the “creative games” (Weigand, 2000, p. 6) that shape a teacher’s emotional practice.

<i>Characteristic of model of analysis</i>	<i>Description</i>	<i>Recognized need</i>
Discursive	Examines a teacher’s emotion and emotional talk focusing upon a broad range of specific emotions	Campos, Frankel, & Camras, 2004; Pekrun & Schutz, 2007; Weiner, 2007
	Looks at patterns, commonality and relationships (Lemke, 1995) at an intra- and interindividual level across conditions and over time	
	Provides social semiotic principles for the classification of lexis	Bednarek, 2008; Martin & White, 2005
Expanded	Opens up the model to different descriptive and classificatory systems	Kress, Jewitt, Ogborn, & Tsatsarelis, 2001; Sarangi, 2003; Weigand, 2000
Comprehensive	Integrates multiple theoretical perspectives	Pekrun & Schutz, 2007; Zembylas, 2007c

	Draws upon multiple methods	Lazarus, 1999; Pekrun & Schutz, 2007; Zembylas, 2007c
	Focuses upon the ‘emotional lives’ of two teachers	Complements studies done into teachers’ emotions through teacher interviews (Hargreaves, 2005)
	Examines the emotional practice of two high school science teachers	Complements studies done into the emotional practice of science teaching at primary school (Zembylas, 2004a)
	Recognizes teachers’ salient emotions and ‘day-to-day’ emotions	Sutton & Wheatley, 2003
	Looks at the individual and social implications of different emotion regulation strategies in a non-artificial environment	Butler, Egloff, Wilhelm, Smith, Erickson, & Gross, 2003; Gross & John, 2003
‘Recipient-designed’	Recognizes the teacher’s way of perceiving the world, emotion regulation goals and ways of coping	Sutton, 2004; Weigand, 2000
Holistic	Recognizes the unity of ‘inner’ and ‘outer’ semiotic practices	Lemke, 1995
	Engages with the notion of a mind-body opposition for a ‘linear’ model of emotion	
	Engages with the inner and outer component of a ‘non-linear’ model of emotion	
	Examines the simultaneous negotiation, or non-negotiation, of goals pertaining to mastery, rapport, performance and holism	Boekaerts, 2007
Explicit	Specifies the nature of interactions between levels for a ‘multilevel’ theory	Boler, 1999; Pekrun & Schutz, 2007; van Veen & Lasky, 2005; van Veen, Slegers, & van de Ven, 2005
	Enables effective recognition, realization and choice between models	Bernstein, 2000

*Figure 3.7-I* The characteristics of the model of analysis that inform the research design

# Chapter 4 Report on the Data Interpretation and Analysis

## Overview of the Report on the Data Interpretation and Analysis

In chapter 4 I report on the building of a ‘linear’ and ‘non-linear’ model of emotion for Julia and Lydia’s pedagogic practice. I do so by describing the interactions between levels for the ‘multilevel’ theory outlined in chapters 1-3 at an intra- and interindividual level. For relations, I consider the interactions between levels for evaluation and relations by bringing value to the fore. For subjectivity, I examine the interactions between levels for evaluation and subjectivity by foregrounding control. I report on the implications of the emotional principle favoured by Julia for mastery, rapport, performance and holism in 4.1, 4.3, 4.5 and 4.7. Likewise, I report on the implications of the emotional principle favoured by Lydia for mastery, rapport, performance and holism in 4.2, 4.4, 4.6 and 4.8. On occasion I provide not only intraindividual differences, but interindividual differences as well, under those sections that pertain to Julia or Lydia.

### 4.1 An Emotional Investment in Mastery for Julia

#### Introduction

[LTj194-196]

<i>j</i>	194	Jackie has written some lovely stuff, and she’s written some unnecessary stuff, which is still lovely, but unnecessary...Tell me what she doesn’t need, [name]?
<i>j</i>	195	S: Like the experiment showed that.

<i>j</i>	196	T: Good girl. So, Jackie, you've written a lovely English sentence. And I'm sure your English teachers would be very proud of you that you've written a nice English sentence...But in science you don't actually need to do that. You can actually just start here.
----------	-----	--

In the interaction above, Julia evaluates the first part of a concluding statement written on the whiteboard by Jackie as 'unnecessary stuff'. She points to the start of the latter part of the sentence, delineating precisely from where the learners are to begin to write, and crosses out the rest. In 4.1 I examine the principles that appear to guide Julia's dialogic behaviour with regards to competence. I do so to understand more fully why, for example, feelings of pride are seen to "stick" (Ahmed, 2004, p. 89) to a detailed sentence in the context of the English classroom, rather than the science classroom, in the excerpt above. I begin by looking at the interactions between the level of evaluation and relations, and then consider the interactions between evaluation and subjectivity.

### 4.1.1 Evaluation and Relations

In 4.1.1 I look at the implications of Julia's favouring of an 'ideological' emotional principle for *pedagogic relations* by bringing value to the fore. I begin by examining the implications for primary relations of space and time. I then look at the implications of Julia's high or low value ascriptions for 'external' relations (namely, relations between the pedagogic context, and context external to it), and 'internal' relations (namely, relations within the pedagogic context). Lastly, I address the implications in terms of relations for which one of the categories pertains to the learners' feelings.

#### 1. Primary Relations of Space and Time

Julia's high value ascriptions with regards to mastery bring about regulatory boundaries in space, and punctuations in time. For example: Julia tends to position herself at the front of the science classroom during a lesson. She also instructs the learners at different



times throughout a lesson, to put their pens down, and place their eyes upon her, directing the attention of the learners towards her<sup>12</sup>:

Girls, I would like every single set of eyes on me please, every single set of eyes. [Name]. Who's that? [Name], [name], [name], [name], [name], [name], [name], [name], [name]. Every single set of eyes. [Name] I haven't got yours. [LTh269]

Learners who demonstrate a high degree of emotional investment in physics are similarly made visible as they are asked to come to the front [LTt191], stand up [LTe364], or provide their data [LTi128]. As shown in the excerpt below the visibility of learners who display an interest in science is revealed through Julia's greater 'awareness' of them. She directs her 'affection' mainly towards those learners who ascribe importance to physics:

I think sometimes, just when I think the students are showing an interest, I become more interested in them maybe. So, if I think they're not really in it, and they're just a bit despondent, then I don't think I have as much affection for them. [ITa122]

Julia's punctuation of a lesson into time periods is evident from her announcement of the start of class. She tells the learners 'The bell has spoken...Let's get into it' [LTf1]<sup>13</sup>. In addition, the punctuation of time is most notable from her specification of the time period in which the learners have to complete a task<sup>14</sup>. It is noteworthy that Julia does not alter<sup>15</sup>, or alters only slightly<sup>16</sup>, the time period given if learners express an inability to keep up<sup>17</sup>.

## 2. External and Internal Relations

For 'external' and 'internal' relations, I examine Julia's high or low value ascriptions, i.e. selection *or* non-selection of interpersonal and ideational meanings, for mastery. For 'external' relations, e.g. mastery in A (namely, physics) and B, I focus on the internal and external component of a 'linear' model of emotion by examining her high or low value

<sup>12</sup> For example: [LTa258] [LTb47] [LTc426] [LTe19] [LTf38]

<sup>13</sup> [LTc31] [LTe1] [LTh1] [LTj1] [LTi2] [LTp31] [LTq4]

<sup>14</sup> For example: [LTb316] [LTd200] [LTf116] [LTf343] [LTf349]

<sup>15</sup> [LTe13] [LTm164] [LTm332] [LTo55]

<sup>16</sup> [LTm372]

<sup>17</sup> [LTm159] [LTm161] [LTm163] [LTm366] [LTo56]

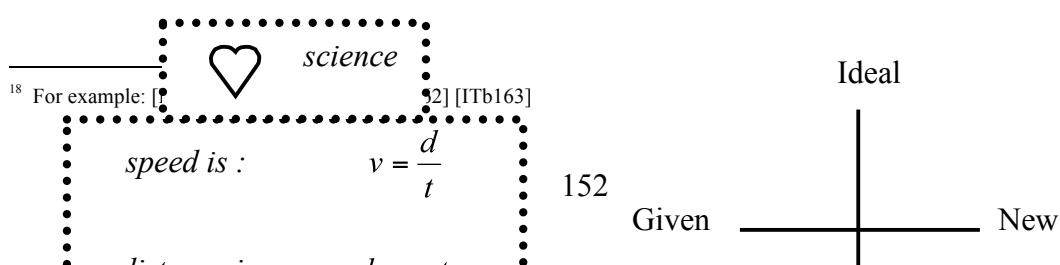
ascriptions concerning mastery in A. For ‘internal’ relations, I focus on mastery and holism in A. Julia’s high or low value ascriptions realize relations marked by strong classification and framing. In addition, for mastery in A, they appear to reveal a dislocation between inner experience and outer expression through efforts at suppression.

Prior to examining relations for mastery in A and B, I note that Julia’s use of ‘response-focused’ emotion regulation strategies is supported by her direct communication of her use thereof, and from her behaviour. She expresses frequently taking deep breaths, saying ‘I do that a lot’ [ITa262], and does so during the interviews<sup>18</sup>. Julia also communicates her use of expressive suppression stating ‘If there’s any deeper emotions, positive or negative ones, I think that I often hide them’ [ITa78], and exhibits distracted behaviour that possibly indicates her use of the strategy due to its cognitive demands. Examples of selected utterances from the interviews include:

- ‘Ugh. Can you just ask that question again? I think I’ve lost my train of thought’ [ITa94]; and
- ‘There has to be a reason for doing it other than passing the test. And I’ve completely forgotten the question. Can you ask me again?’ [ITb49].

### ***Mastery in A and mastery in B***

**High value ascriptions.** Julia’s high value ascriptions concerning mastery in A realize ‘external’ relations marked by strong classification and framing. She ascribes a high degree of value to science through the use of multiple modalities of communication. In order to interpret the communication of feelings through multiple modalities I draw upon Kress and van Leeuwen’s (1996) polarized form for the textual organization of images. In particular, I focus upon vertical polarization where the top of an image is glossed as ‘Ideal’, and the bottom as ‘Real’. A diagram constructed on the whiteboard by Julia, for speed distance time calculations, is juxtaposed with Martin and Rose’s (2003, p. 259) schematic representation of Kress and van Leeuwen’s model.



*Figure 4.1.1-I* A diagram constructed for motion [LTk103] juxtaposed with Martin and Rose's (2003, p. 259) schematic representation of Kress and van Leeuwen's model

For the diagram shown in *Figure 4.1.1-I* above, 'science', or a love of 'science', can be interpreted as an 'ideal' by drawing upon Kress and van Leeuwen's notion of an 'ideal'. The formulae below, on the other hand, can be interpreted as the more practical information for solving problems, by drawing upon their notion of 'real'. In addition, by drawing upon Bernstein's notion of classification, the boundary that surrounds the pictorial representation of the heart, together with the lexical item 'science' can be interpreted as inserting a dislocation between the 'inner' and the 'outer'. The boundary lays out the terrain as 'systems of oppositions' where the 'inner' (i.e. the science classroom) is a space of feelings of 'love'.

Julia's positive, rather than positive *and* negative, appraisal of physics constructs a text that is 'dialogically contractive'.

For example:

1. She positively appraises science, saying 'We have a fun lesson every day' when a learner asks 'Can we have a fun lesson today?' [LTp21-22]. The 'dialogically contractive' nature of the discourse is evident as a learner responds 'I don't think so' [LTp23]. Her positive appraisal of science is reiterated by a learner who states soon thereafter 'Everyday is a good day' [LTp26]:

[LTp21-26]

<i>p</i>	21	S1: Can we have a fun lesson today?
<i>p</i>	22	T: We have a fun lesson every day, what are you talking about?
<i>p</i>	23	S2: I don't think so.
<i>p</i>	24	S: An easy lesson is a fun lesson.
<i>p</i>	25	T: [Slightly laughs] An easy lesson is a fun lesson in science.
<i>p</i>	26	S2: Every day is a good day.

2. Julia also negatively, and then positively appraises maths, one of the multiple literacies constitutive of science (Lemke, 2000). She does so by reiterating the learners' appraisal

of maths. The ‘dialogically contractive’ nature of the discourse is evident as a learner asserts ‘I love maths’ following the negative evaluation of maths [LTk45]:

[LTk40-46]

<i>k</i>	40	T: I hate to say this word but it's a little bit of a mathsy lesson...
<i>k</i>	42	Ss: Ugh.
<i>k</i>	43	T: Yes, I know...
<i>k</i>	45	S: I love maths.
<i>k</i>	46	T: I love maths, what a great lesson. I love maths. Okay, so here we go.

**Low value ascriptions.** Julia’s low value ascriptions concerning mastery in A realize ‘external’ relations marked by strong classification and framing, and reveal inconsistencies in her emotion and emotional talk concerning the worth of mastery. Julia’s negative appraisal of physics is evident from her description of her physiological response, upon having to do physics, when she says ‘I know for physics, whenever I say we’re doing physics, I always feel myself doing a big sigh when I say it’ [ITb51]. It is of interest that her appraisal of physics stands in sharp contrast to her evaluation of the other subjects taught in Year 10 science. Drawing upon the resource of ‘intensification’ she upscales her enthusiasm for these subjects, saying ‘I get really enthusiastic when I talk to the girls about [them]’. In contrast, for physics, she adds ‘And I just don’t feel that about physics’ [ITb51].

Julia also relays having little ‘interest’ in physics, and refers to ‘interest’ as an ‘odd word’ [ITb63] to describe her feelings in the classroom. She states ‘I guess I see interest as kind of an academic thing, and I don’t find much academic interest in the classroom anymore’ [ITb63]. She considers her lack of ‘interest’ would ‘shock’ the hearer, saying, with some sadness in her voice, ‘Yeah, I don’t have much interest in the content, she says, shockingly’ [ITb63]. Her expectation of the manner in which the hearer would react appears to reveal a discrepancy between her private feelings, and those that she tries to display, and an awareness of a lack of authenticity. Her experience of herself as inauthentic is supported by her statement: ‘I fake a lot of outward stuff in the classroom...And, so I think that what you would see could be masked quite a bit’ [ITa76].

Julia's negative evaluation of physics is evident in the science classroom from her reiteration of a learner's negative appraisal of the work [LTf141-144], the use of sarcasm [LTg179-199] [LTc446-451], and the verbal communication thereof [LTt19-22]. Julia acknowledges that her feelings may affect the learners, saying 'I think [the way I feel] probably just does affect my teaching, and how the girls feel about the subject as well' [ITb51]. Although she tries to 'snap out' [ITb45] of these feelings, Julia conveys difficulty in doing so [ITb45]. Her desire to display feelings deemed appropriate in the context of the science classroom, and her difficulty in doing so, is evident in the excerpt below in which a learner remarks on her lack of enthusiasm with regards to the unit:

[LTt161-163]

<i>t</i>	<i>161</i>	T: [Julia hands out the notes.]. I know it's wildly exciting, isn't it? I wish I could get enthusiastic about this topic for you, actually.
<i>t</i>	<i>162</i>	S: [Love] [unclear] the enthusiasm.
<i>t</i>	<i>163</i>	T: Yeah, I must say, I'm struggling a bit [name].

### ***Mastery in A and holism in A***

Julia's high or low value ascriptions with regards to mastery realize 'internal' relations marked by strong classification and framing. In the first instance, her high value ascriptions concerning 'scientific' discourse<sup>19</sup> are revealed when she instructs the learners during class to write a scientific text verbatim (selection of communication). In doing so, a "unidirectional causal model" (Bandura, 1978, p. 344) may be seen to apply as the learners move *from* 'everyday' *to* 'scientific' discourse (sequencing). She instructs the

<sup>19</sup> I recognize 'scientific' discourse in this study by the combined effect, rather than the obligatory presence, of the following features: grammatical metaphor, abstraction, lexical density and consequential conjunctions (Halliday, 1993). Grammatical metaphor involves the transference from a 'congruent' form of expression (e.g. move), to a 'non-congruent' one (e.g. motion) (Christie, 2002; Veel, 1997). Abstractions (e.g. force) construe 'virtual entities', but cannot be as easily unpacked into more 'congruent' forms, as is the case with grammatical metaphor (Martin, 1997; Veel, 1997). Lexical density pertains to the number of lexical items per clause: the more abstract a text is, the greater the lexical density (Veel, 1997). Consequential conjunctions (e.g. 'because', 'in order to' and 'if') realize logical relations to do with explaining causes, purposes or conditions (Martin & Rose, 2003).

learners to ‘copy’, or ‘transfer [the information] over’, from the student instructions, for the aim [LTt323], title of a graph and table [LTv116], as well as the conclusion [LTv253] (pacing) (*Figure 4.1.1-II*). For the conclusion of a report, she tells the learners:

I'm going to help you out with [the conclusion] because I want you to get it perfect. So, could you turn over the page please to the conclusion and we're going to use the exact words from the aim. So, I'm in fact, so much so, that I'm not even going to do it from my head. I'm going to look back at the aim to make sure I get it written exactly right. [LTv253]

+C	<b>Classification</b>	Holism in A and Mastery in A.
+F	<b>Communication</b>	‘The exact words from the aim’.
	<b>Pacing</b>	‘You can write this exactly the same every time’.
	<b>Sequencing</b>	A ‘unidirectional causal model’.
	<b>Criteria</b>	‘I want you to get it perfect’. [LTv253-259]

KEY +C Strong Classification +F Strong Framing

*Figure 4.1.1-II* Strong classification and framing for ‘scientific’ discourse

Julia’s low value ascriptions concerning ‘scientific’ discourse are evident when she refers to a scientific text as ‘flashy words’ [LTg140], and instructs the learners to use their ‘own language’ [LTv217] (selection of communication). For the conclusion of a report she writes in ‘really simple words’ for them to look back on when they revise [LTj128]. For the method of a report a learner is told to use ‘quite simple language’, and her ‘own language’ [LTv217]. She also changes the word ‘horizontal’, ‘constant slope’ and ‘gradient’ to ‘flat’ [LTn248], ‘straight line’ [LTn226] and ‘slope’ [LTn236], respectively on the PowerPoint presentation during class (pacing). A ‘unidirectional causal model’ may also be seen to apply as the learners do *not* move *from* ‘everyday’ *to* ‘scientific’ discourse (sequencing) (*Figure 4.1.1-III*).

+C	<b>Classification</b>	Mastery in A and Holism in A.
+F	<b>Communication</b>	‘The method [of an experiment]’.
	<b>Pacing</b>	‘Write it in your own language, every step you do’.
	<b>Sequencing</b>	A ‘unidirectional causal model’.
	<b>Criteria</b>	‘You’re doing perfect, perfectly well. If you just use your language’. [LTv214-227]

*Figure 4.1.1-III Strong classification and framing for ‘everyday’ discourse*

### **3. Internal Relations: Responding to the Learners’ Feelings**

For Julia’s responsiveness to the learners’ feelings, I examine her low value ascriptions concerning her learners’ feelings of excitement due to an upcoming long weekend. Her absence of focal attention towards their feelings results in the absence of synthesis for different kinds of representation, namely: mastery in A (i.e. physics) and another activity. It is noteworthy that the evidence for an absence of focal attention towards day-to-day feelings appears to be supported by her recognition of feelings marked by a high degree of expressivity in her description of the learners’ behaviour for an emotional response, or “emotion-expressive behaviour” (Butler, Egloff, Wilhelm, Smith, Erickson, & Gross, 2003, p. 49). For example, she describes feelings of ‘sadness’ as ‘really visual’:

I think I can that I can tell if they’re happy, or sad. Sometimes. I’m not too sure about the affection...I think sad is just really visual. They have their heads down, their eyes are a little bit sort of glazed over. They’re just very withdrawn.  
[ITa146-152]

She provides a ‘visual playing out’ of feelings of ‘anger’ or ‘frustration’:

They often just pack up their books, like slam their books closed, give up. And have quite, sort of, quite visual playing out of the feeling. Sort of letting the whole world know that they’re feeling those feelings. So, I guess that they make sure I notice how they’re feeling. [ITc78]

***Mastery in A and another activity.*** The day before a long weekend, the learners arrive excited to class. As the lesson starts though, there is the expectation that the learners direct their attention towards the teacher. Julia tells Jackie ‘Hey, Jackie, Jackie, Jackie, I love you dearly, but right now it’s about me thank you’ [LTc5]. It appears an activity is little altered during the lesson in response to the learners’ feelings of excitement. This is evident for an activity that she does with her learners, midway through the lesson, albeit demonstrating a reluctance to do so. She tells the learners to turn to their partners next to them and discuss the difference between ‘ks’ and ‘kilometres per hour’, saying: ‘Okay, I

can't believe I'm going to do this, because you're so rowdy this afternoon. I would like you to turn to your neighbour...and discuss that please [LTe156].

Julia gives priority (evaluation criteria) to a discussion on S.I. units (selection of communication), instead of an alternative activity (sequencing). She punctuates time, allocating the learners fifteen seconds for the discussion, before reporting back to the class (pacing) (*Figure 4.1.1-IV*). Her efforts to direct the learners' attention towards the lesson, rather than choosing an alternative activity to "down-regulate" (Sutton, 2007, p. 266) their feelings, for example, leaves her feeling 'exhausted' [LTe364]. Towards the end of the lesson, she stops and tells the learners 'I'm just feeling quite, phew, I'm exhausted' [LTe364], and 'You guys are really full on' [LTe366]. In her emotion diary she records feelings of 'frustration' and 'irritation' for the lesson, writing 'The frustration turned to irritation as the situation got worse i.e. more chatty/ less suitable work' [EDEe].

+C	<b>Classification</b>	Another activity and Mastery in A.
+F	<b>Communication</b>	'The difference between ks and kilometres per hour'.
	<b>Pacing</b>	'Fifteen seconds only'.
	<b>Sequencing</b>	'I can't believe I'm going to do this, because you're so rowdy this afternoon'.
	<b>Criteria</b>	'I would like you to turn to your neighbour...and discuss that please'. [LTe156]

*Figure 4.1.1-IV* Strong classification and framing for an activity on S.I. units

In 4.1.1 I examined the implications of Julia's favouring of an 'ideological' emotional principle for pedagogic relations by bringing value to the fore. For primary relations, Julia's high value ascriptions concerning mastery are revealed through regulatory boundaries in space, and punctuations in time: She tends to position herself at the front bringing 'attentional deployment' to the fore, and punctuates a lesson into time periods by specifying the time the learners have to do a task. For 'external' relations, e.g. mastery in A and B, Julia's high or low value ascriptions realize relations marked by strong classification and framing. In terms of high value ascriptions, she gives a high degree of worth to physics through her use of multiple modalities of communication when she



frames a pictorial representation of a heart together with lexical item ‘science’. For the pictorial representation, I interpret ‘science’ to be an ‘ideal’ drawing upon Kress and Leeuwen’s framework for the textual organization of images. In addition, I interpret the boundary that surrounds the heart to signal a dislocation between the ‘inner’ and the ‘outer’ drawing upon Bernstein’s notion of classification. In terms of low value ascriptions, she articulates a lack of enthusiasm towards teaching physics that stands in sharp contrast to other subjects taught and refers to ‘interest’ as an ‘odd’ word to describe her feelings in the classroom. Her description of herself as taking a ‘big sigh’ at the start of a unit on physics points to her use of ‘response-focused’ emotion regulation on having to teach physics by taking a deep breath. At an individual level, Julia’s high or low value ascriptions realize an emotional practice of strong feelings. In addition, they appear to reveal a dislocation between her private feelings, and the public feelings she tries to display. Her expectation that her lack of interest in physics would ‘shock’ the hearer supports the evidence for a dislocation between her inner experience and outer expression with regards to physics, and indicates an awareness of a lack of authenticity. Julia’s high value ascriptions build an ‘ideal’ pedagogic subject with regards to value that ascribes a high degree of worth to mastery in A. At a social level, Julia’s high or low value ascriptions insert a dislocation between the individual (the ‘inner’) and the social (the ‘outer’). For example: Her negative appraisal of maths contracts the dialogic space to a learner who expresses her ‘love’ of maths. For ‘internal’ relations, e.g. mastery and holism in A, Julia’s high or low value ascriptions concerning mastery realize relations marked by strong classification and framing. Her high value ascriptions with regards to ‘scientific’ discourse, for example, mean that her learners move *from* ‘everyday’ *to* ‘scientific’ discourse, in line with a ‘unidirectional causal model’. For Julia’s responsiveness to the learners’ feelings, her inattentiveness towards her learners’ feelings realizes relations marked by strong classification and framing. (It is noteworthy that her inattentiveness towards her learners’ day-to-day feelings appears to be supported by her recognition of feelings marked by a high degree of expressivity in the description of her learners’ emotion-expressive behaviour.). Her efforts to strengthen the classification and direct her learners’ attention towards the topic, rather than engaging in an activity to ‘down-regulate’ her learners’ feelings, leave her feeling ‘exhausted’.

### 4.1.2 Evaluation and Subjectivity

In 4.1.2 I address the implications of Julia's favouring of an 'ideological' emotional principle for *subjectivity* by foregrounding control. I outline the implications of Julia's high or low ability ascriptions, firstly, for her, and then for her learners. In order to do so, I examine subjectivity at three levels: At an intrapersonal level, I focus upon enhancement, i.e. the experience of boundaries as "tension points between the past and possible futures" (Bernstein, 2000, p. xx). At an interpersonal level, I consider the extent to which a teacher or learner feels included socially, intellectually and/ or personally. Lastly, at a political level, I examine the participation of the teacher and learner.

Before I address the pedagogic communication for Julia, I report that the evidence for her favouring of high or low ability ascriptions is supported by her description of herself in her role as teacher: Julia describes herself as having a high degree of control by depicting herself as the 'adult', and the learner as the 'child'. She outlines appropriate behaviour to a learner by stating 'You need to realize that even if you're right in this role, you're the child, and the teacher is the teacher...If the teacher is saying do this, you need to do it' [ITc60]. She describes herself as having a low degree of control when she acquiesces so as not to put a learner in the position of 'defy[ing]' her [ITc58], and when she articulates a 'fear' of a loss of control due to her construal of control as a 'precarious' thing:

I see teaching as such a precarious thing where the authority, and the control we have, is only because we stand up there and expect it. And if the students only worked out that there was nothing we could do if they decided not to give us that, you know, we would lose that completely. [ITc58]

#### 1. The Pedagogic Communication: Julia

***Intrapersonal level.*** Julia's high or low ability ascriptions realize opportunities or constraints for 'enhancement' in the building of subjectivity. Julia has a low 'action-outcome' expectancy concerning her learners' ability to do physics, and pities them,

saying ‘At the start of the topic I was feeling quite anxious just about teaching those poor girls physics’ [ITd36]<sup>20</sup>. She expresses frustration at the opportunity lost to prepare the lower band learners for their future, due to her perception of the content as having little relevance for them [Section 4.7]. In addition, she relays feeling ‘sometimes’ ‘disillusioned’ with her ‘job’ on consideration that she may not be teaching her learners ‘anything at all’:

When I think how limited the girls are and what their lives will be like, I feel sad. But when I think what a wasted opportunity I have in terms of not teaching them anything useful/ relevant/ or even anything at all I feel very frustrated.  
[EDE2008.08.22]

Julia appraises herself as competent in terms of her knowledge of the content for science. In tracing a genealogy for feelings of anxiety related to her pedagogic practice, she relays how, although at the start of her career she had feelings of anxiety concerning her content knowledge, these feelings have ‘proved’ to be ‘not correct’ [ITd88]. Her feelings of anxiety in terms of teaching the unit on motion are elicited mainly on account of an appraisal of her learners’ ability [ITd34]. It is unclear whether Julia’s feelings of anxiety in terms of teaching S.I. Units for the unit are due to an appraisal of her ability, the learners’ ability, or both:

The only anxiety that I can think of that would have been associated with the motion topic was just that the girls might find it difficult. I think that I understand the motion topic quite well. But maybe the S.I. units I feel, I felt a bit anxious about teaching that. And I know I glossed over that. And I do feel a little bit guilty about that too actually, because I guess there’s always one or two girls in the class that probably could have understood that. [ITd34]

Julia also appraises herself as incompetent in terms of her knowledge of the content, and ability to equip her learners. For example: She remarks how she feels she isn’t able to give everything to her teaching at the moment, as she isn’t feeling well, for a lesson on units conversions [FNe]. She relays feeling underprepared, and communicates further how she gets upset when a lesson goes less than perfect [FN2008.08.20]. For a lesson on

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<sup>20</sup> Weiner (1984) provides ‘pity’ as an indirect cue that inadvertently communicates to the recipient low ability ascriptions.

resistance, Julia communicates doubts as to whether or not she has been ‘good enough’ as a teacher. After mixing up the terms ‘resistance’ and ‘insulation’, she expresses feelings of guilt in terms of not adequately equipping her learners, and communicates further how her confusion in terms of explaining Ohm’s Law has not changed since the lesson:

The whole relationship between current, and voltage, and resistance, and brightness, it still confuses me now. And I do feel guilty about that, that I possibly had not done the girls justice there. If I haven’t been good enough. [ITd32]

**Interpersonal level.** Julia’s high or low ‘action-outcome’ expectancies realize opportunities or constraints for ‘inclusion’. Julia appraises others as unhelpful, at times, in terms of assisting her, or her learners, to “talk” (Lemke, 1993, p. 1) science. She appraises the ESOL teacher as otherwise committed, and communicates feeling unsupported [FNg]. She also appraises a colleague from the science department as ‘sometimes’ ‘confusing’ [ITd80] if asked to explain a concept. As a result, Julia may not approach others if she requires assistance in terms of her content knowledge, and her learners may have limited access to others to equip them to ‘talk’ science.

**Political level.** Julia’s high or low degree of personal control realizes opportunities or constraints for participation and brings ‘power’ to the fore. Her low ‘action-outcome expectancy’ in terms of her learners’ ability to do physics is revealed when she: (1) Directs her learners’ attention away from an internal attribution of ability<sup>21</sup>; (2) Provides little criticism<sup>22</sup>; (3) Provides unsolicited help<sup>23</sup>; and (4) Simplifies a task. Julia explains that she may ‘make it that the work is hard’, or that she hasn’t ‘taught it properly’ [ITc82] so that the learners do not ‘feel bad’ [ITd104]. In addition, she remarks that she does so, because she feels that much of the learners’ anger and frustration comes from feeling ‘inadequate’ [ITc82]. Julia simplifies a task by omitting learning outcomes from the unit

<sup>21</sup> For example: [LTa59] [LTa187] [LTb47-49] [LTc131] [LTc174]

<sup>22</sup> For example: [LTc193-197] [LTc453-456] [LTc119-130] [LTi13] [LTi323-329]

<sup>23</sup> For example: [LTp252] [LTq95-98] [LTq182] [LTq354-357] [LTm438]

of work [LTc232]<sup>24</sup>, permitting the learners to ‘pass’ ‘along’ [LTc67] a problem<sup>25</sup>, and omitting problems to be done in class, and at home<sup>26</sup>.

Julia’s appraisal of a low degree of control in terms of her content knowledge, and ability to equip her learners to do physics, is revealed through her engagement in emotion-focused coping. For a lesson on resistance, she “solicit[s] emotional support” (Boekaerts, 2007, p. 41) from Lydia in the workroom after mixing up the terms ‘insulation’ and ‘resistance’ [FNc]. She expresses a strong dislike of physics, and says further that if the study were to be on biology she would come across as very different [FNc]. For a lesson on constant velocity, she solicits emotional support by apologizing to a learner for not being able to explain the concept. She tells the learners to memorize the concept, rather than address the problem, saying ‘I think the easiest thing, it is really hard to understand this one. I think just memorize that one, even I just memorized that one [name], to be honest’ [LTf217].

Julia’s low ability ascriptions realize a pedagogic communication that acts on the ‘meaning potential’ in a contractive manner. The pedagogic communication, for example, is contracted to interpersonal and ideational meanings concerning mastery for A (i.e. the lower band learners). The contraction of the potential discourse available to be pedagogized is evident when Julia omits learning outcomes from the unit of work. It is also evident when she provides unsolicited help. A ‘non-ideal’ pedagogic subject is constructed with regards to control that involves a low degree of controllability concerning mastery for A.

## 2. The Pedagogic Communication: The Learners

Having considered the pedagogic communication with regards to mastery for Julia, I look at the pedagogic communication for her learners. In order to do so, I address the implications of Julia’s high or low ability ascriptions for a high achieving learner, named

<sup>24</sup> For example: [LTa1] [LTa24] [LTb13-17] [LTd192] [LTc208-209]

<sup>25</sup> [LTc108] [LTc126]

<sup>26</sup> For example: [LTc378-380] [LTk180] [LTc87-109] [LTq222] [LTq400]

Jackie. I begin at an intrapersonal level by examining enhancement for mastery, a condition for ‘confidence’: “Where that right is not met then neither students nor teachers will have confidence, and without confidence it is difficult to act” (Bernstein, 2000, p. xx). I then focus upon inclusion at an interpersonal level, a condition for ‘communitas’. Lastly, at a political level, I look at participation for mastery.

## 2.1 The Pedagogic Communication: A learner

***Intrapersonal level.*** An ‘ideological’ emotional principle involves a language of description that may be relayed to the learners concerning appraisals of a high or low degree of controllability. Julia prompts Jackie to formulate high ability ascriptions through the differential treatment given to her: She refrains from providing Jackie with assistance whilst providing unsolicited help to a learner thereafter [LTa142] [LTa146]. She provides Jackie and her friend with ‘extension’ work but does not do so for the rest of the class [LT0162]. Julia also asks Jackie to explain the work to the class [LTh27].

***Interpersonal level.*** An ‘ideological’ emotional principle builds an emotional practice that presents opportunities or constraints for inclusion. The degree to which the classroom is inclusive of a learner may be revealed through the extent to which a learner is visible. The visibility of Jackie in the classroom is revealed through Julia’s awareness of Jackie. As Julia is aware of Jackie, so she describes Jackie to be aware of her. Her description of Jackie’s interest suggests feelings marked by a high degree of expressivity:

I’m always drawn to Jackie, just because she’s so outgoing, I think. But I guess, just smiley, sort of a bit bouncing in their chair, like just watching, looking like, looking at me, looking at what we’re doing. A tendency to be side tracked and talking, but on task, sort of talking to their neighbour, and saying, ‘Wow, you know, that’s cool,’ or something like that. [ITb87]

Jackie’s visibility in the classroom is also evident from the central position she, or her work, occupies in the classroom. Jackie sits at the centre of the classroom. She sets up a demonstration to test the conductivity of graphite [LTc]. She offers her data to be used for the construction of a graph on the whiteboard [LTi]. In operating within the public

arena Jackie's movements are less restricted within the space of the classroom, and her actions may be seen to translate into the action tendency for pride, namely "expansiveness" (Lazarus, 1991, p. 272).

***Political level.*** An 'ideological' emotional principle involves a high or low degree of participation, as the teacher, for example, engages with/ disengages from the learner. Jackie's participation in the classroom community is evident when Julia puts Jackie 'in charge' [LT1152] of the class. She puts the learners under Jackie's 'control' [LT1153] as the class makes its way outdoors to do an activity for the construction of a distance time graph. She tells Jackie 'You're in charge of making sure that nobody is too noisy', and later on asks Jackie 'Hey. Jackie. Are you keeping everyone under control?' [LT1152-155].

As Jackie leads the class to the far side of the school she rallies the learners to do a chant, saying 'C'mon, I can't be doing this by myself, c'mon, I don't know what I've been told I think science is really'. When a learner replies 'old', Jackie laughs and instead proposes 'gold'. As class leader it is Jackie's evaluation that is foregrounded. As the learners chant in unison 'I don't know what I've been told, I think science is really gold' she cries 'Do it again, do it again', turning up the volume of these feelings. (As the chant gets repeated so alternative appraisals are offered later on, and these in turn get taken up by the learners.) [LT1168-178].

Julia's high ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in a contractive manner (i.e. it acts in an enhancing *or* restricting manner). The pedagogic communication is expanded to interpersonal and ideational meanings concerning mastery for A (i.e. Jackie). The expansion of the potential discourse available to be pedagogized is evident when she gives Jackie 'extension' work on motion. Her behaviour aligns Jackie into formulating high ability ascriptions. It also provides opportunities for inclusion and participation, most notably through her appointment of Jackie as class leader. An 'ideal' pedagogic subject is constructed with regards to control that involves a high degree of controllability concerning mastery for A.

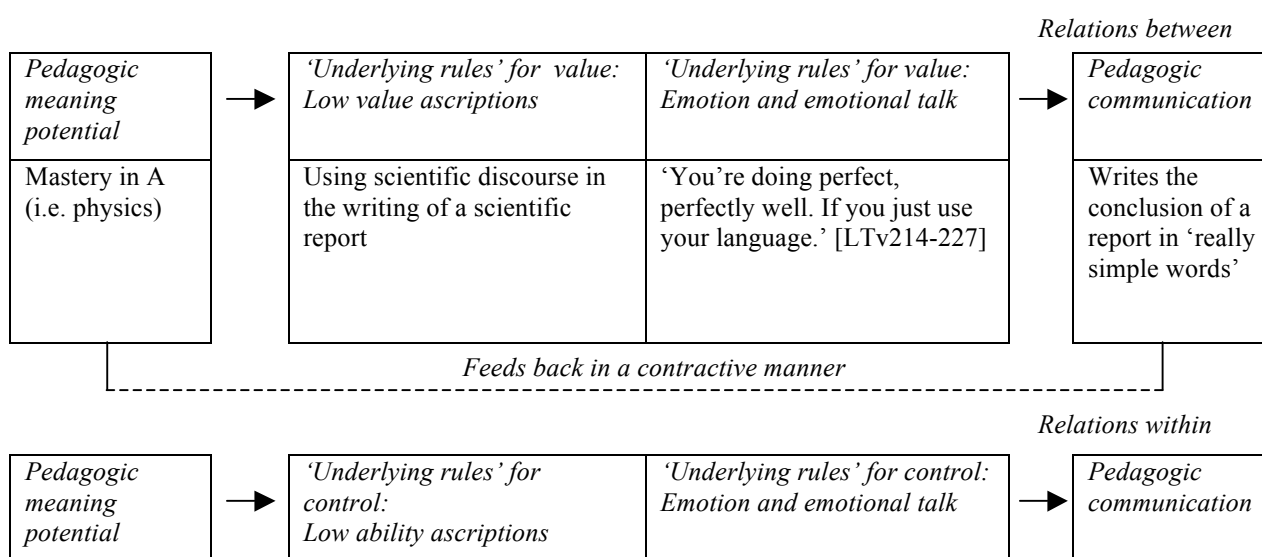
In 4.1.2 I looked at the implications of Julia's favouring of an 'ideological' emotional principle for subjectivity by bringing control to the fore. For control with regards to Julia, I examined the implications in connection with the building of the pedagogic communication for mastery. Julia favours high or low ability ascriptions in the building of the pedagogic communication. For example, she has a low 'action-outcome' expectancy in terms of the learners' ability to do physics. She appraises the learners as 'limited' and pities them for having to do physics. She also has a low 'action-outcome' expectancy in terms of the ability of the ESOL teacher, for example, to offer assistance, and does not tend to invite others into the classroom to 'talk' science to the learners during the study. Julia's high or low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in a contractive manner. Julia and her learners do not attend to mastery when she simplifies a task by omitting learning outcomes from the unit of work, or permits the learners to 'pass' 'along' a problem during class. In addition, they do not attend to mastery when she instructs the learners to memorize a concept rather than obtaining assistance from others on how to explain the concept.

For control with regards to the learners, I considered the implications for enhancement, inclusion and participation for the learners using an example of a high achieving learner. Julia's high or low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in a contractive manner. The pedagogic communication is expanded to interpersonal and ideational meanings concerning mastery for A (i.e. Jackie). The evidence for the expansion of the pedagogic communication for A is supported by her communication that she is always 'drawn' to Jackie. Her engagement with Jackie brings Jackie's feelings to the fore. For example, when Jackie is appointed class leader it is her positive evaluation of 'gold' that is recognized, and reiterated in unison by the learners.

### 4.1.3 Summary



In sum, Julia favours high or low value and ability ascriptions with regards to mastery. The processing of emotional information at a general level realizes ‘relations between’ and ‘within’ marked by strong classification and framing. For value, she negatively evaluates a scientific text as ‘flashy words’ and writes the conclusion of a report in ‘really simple’ words for the learners. For control, she pities the lower band learners for having to do physics, and omits learning outcomes from the unit. Julia’s high or low value and ability ascriptions build a pedagogic subject that feeds back on the meaning potential in a contractive manner. I illustrate the building of a ‘linear’ model of emotion for Julia, for the category mastery, as shown in the figure below.



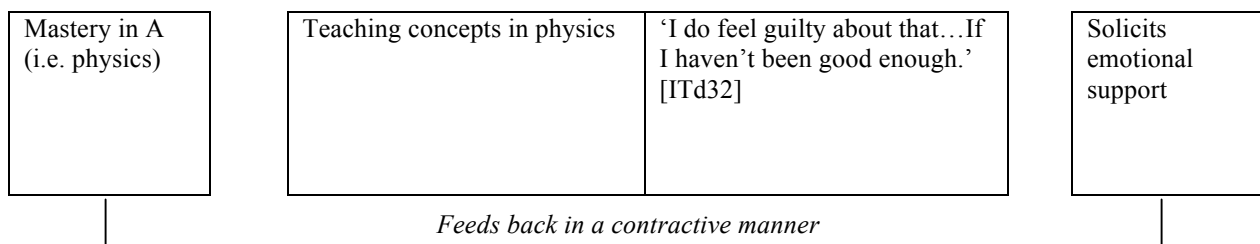


Figure 4.1.3-I The building of a 'linear' model of emotion for mastery

## 4.2 An Emotional Investment in Mastery for Lydia

### Introduction

[LTxx121-127]

xx	121	T: How are you going to measure time?
xx	122	Ss: Stopwatch.
xx	123	T: Stopwatch. So we'll use a stopwatch. A stopwatch.
xx	124	S: Can you just write stopwatch?
xx	125	T: Um, yeah. I'm just writing a much more grammatical sort of a sentency thing. It's got a verb in it. A sentence has a verb.
xx	126	S: Can I just write stopwatch?
xx	127	T: Stopwatch is fine.

In the interaction above, Lydia permits the learners to list the apparatus, or to include the apparatus in the description of the method of a report. She not only teaches the learners how to write the method of a report, but to identify the word class of 'verbs', and the requirements of a simple sentence as well. In 4.2 I examine the principles that appear to inform her dialogic behaviour with regards to competence. I do so to reveal more fully why, for example, she focuses upon the 'rules' of grammar in the context of the science classroom in the excerpt above. I begin by looking at the interactions between evaluation and relations, and then consider the interactions between evaluation and subjectivity.

### 4.2.1 Evaluation and Relations

In 4.2.1 I examine the implications of Lydia's favouring of an 'axiological' emotional principle for *pedagogic relations* by bringing value to the fore. I begin by looking at the implications for primary relations of space and time. I then consider the implications of her high-low value ascriptions for relations between the pedagogic context, and context external to it (i.e. 'external' relations), and relations within the pedagogic context (i.e. 'internal' relations). Lastly, I address the implications for relations for which one of the categories pertains to the learners' feelings.

#### 1. Primary Relations of Space and Time

Lydia's high-low value ascriptions concerning mastery realize the absence of regulatory boundaries in space, and punctuations in time. She assists the learners by continuously circulating during a lesson. Lydia explains her rationale by stating 'It's all very easy to stay outside of their territory, so now I break into it, which rattles them and makes it easier for me' [ITii104]. In doing so, her feelings play out to a lesser degree in the public arena of the classroom, in line with an 'invisible' pedagogy.

The absence of regulatory boundaries with regards to Lydia's pedagogic practice is also evident from the changes made by her in the seating arrangement of the learners. At the start of the physics unit she seats those learners who are interested in physics, and those who aren't, together in the classroom. In doing so, those learners who are disinterested in physics are also seated nearer to her when she teaches at the front of the science classroom:

The class basically fell into three groups. There was the very good group, there was a group who didn't give a damn, and then there was a middle group who could go either way. So I sat the middle group in first, and then I got the good kids to pick, and then I got my ratbags to pick where they would sit. And so there was one of each type in each group. [ITiii44]

The absence of punctuations in time is evident for her emotional practice from her tendency not to announce the start of class, nor to punctuate a lesson into time intervals. It is also evident when she continues a lesson on graphing in the school sewing room during interval. She tells the learners ‘Any of you who are unsure as to how to do the graph, come and see me at 104 during lunchtime. I’m going to be in there helping, and doing some sewing’ [LTviii320].

## 2. External and Internal Relations

For ‘external’ and ‘internal’ relations, I unpack Lydia’s high-low value ascriptions, i.e. selection *and* non-selection of interpersonal and ideational meanings, for mastery. I aim to maintain the integrity of an ‘object’ that responds to events and people by focusing upon the ‘inner’ and ‘outer’ component of a ‘non-linear’ model of emotion. For ‘external’ relations, I focus on mastery in A (e.g. physics) and B (e.g. physical education). For ‘internal’ relations, I look at mastery and holism in A. Lydia’s high-low value ascriptions realize relations marked by weak classification and framing. In addition, they appear to reveal emotion generation, or regulation, through (re)appraisal (focus: micro level).

Before I examine relations for mastery, I note that her use of the ‘antecedent-focused’ emotion regulation strategy of reappraisal is, firstly, suggested by the record of her feelings. In line with findings that show reappraisers experience greater positive emotion [Section 2.3.2], she records negative emotions for four out of fourteen diary entries, in relation to Julia who documents negative emotions for eight out of fifteen diary entries. Secondly, it is supported by her emotion and emotional talk. In line with findings that show reappraisers express greater positive emotion [Section 2.3.2], she expresses greater positive emotion in her talk for mastery, rapport, performance and holism, in relation to Julia [Section 4.1-4.8]. Thirdly, it is supported by her communication of her use thereof:

It’s just this constant. It’s a treadmill I suppose that you’re always on. You are trying to change your feelings so that you can deal with them. And that’s just a constant. It’s all day, every day, every class. [ITiii24]

### *Mastery in A and mastery in B*

Lydia's high-low value ascriptions with regards to mastery in A bring about 'external' relations characterized by weak classification and framing. She positively appraises physics and relays her interest in the subject as having grown as the trajectory of her career has unfolded. She states 'I now have a very big interest in how it works' [ITii64]. Lydia's positive appraisal of mastery is evident in the classroom from her emotion and emotional talk. On drawing the contours for the symbol of a resistor on the whiteboard, she exclaims 'Resistor is gorgeous. It's just a box' [LTiii46]. For a problem on electrical circuits, she tells a learner 'Oh, that's quite cool that one' [LTxvii104] when the learner requests assistance from her.

Lydia also positively appraises the learners' interest in physics, and responds to the eagerness of learners by giving them more of that which they enjoy. She remarks 'If somebody is loving doing conversions between metres and centimetres, give them whole pages of it to play with, because they enjoy it' [ITii92]. Lydia further delights in learners who assist each other during class, and seats learners next to those who will offer assistance. For one learner for whom a suitable space to learn is found, she states 'Certainly I did that for my pleasure, because [name] wasn't going to be left out not learning. She was actually in a place where she could learn' [ITii128]. The outcome is one of 'pure pleasure' [ITii128]:

[ITi70-72]

<i>i</i>	70	T: Watching [name], and [name], and [name] work together. And watching [name] race round [name] to explain to [name] how to do something, and come back.
<i>i</i>	71	I: [Laughs.].
<i>i</i>	72	T: Was delightful... Yeah just watching those little delicious moments. Yeah, it just made a huge difference to the topic.

Although the learners' interest is valued, Lydia does not disalign from those in the class who communicate their dislike of physics. A learner who, at times, conveys her dislike of

physics is Eadith. An answer may simply be seen to be a number, bearing little significance. When Lydia asks ‘So we have a hundred and five divided by sixty. What’s that?’, Eadith replies ‘A number’ [LTxvi111-112]. Lydia does not reject the feelings of those who express a dislike of physics, nor does she tell the learners to feel otherwise. Instead an acceptance of the learners’ feelings is demonstrated for unit conversions when, after a number of learners raise their hands in response to the question ‘How many of you hate this?’, she states ‘Okay, that’s fine’ [LTv93-95].

In addition to the importance given to physics, Lydia also ascribes worth to the learners’ subjects other than physics. As the learners’ food and fabric design teacher as well, she is positioned to refer to external practices both her and the learners engage in together. She refers to the ‘blender downstairs in the kitchen’ for kinetic, and sound energy [LTxvii134], and asks the learners ‘In tech[nology], what do you use to measure fabric?’ for unit conversions [LTvi76]. She also engages in dialogue with the learners’ other teachers during the unit. For example: She talks to the learners’ physical education teacher so that the learners could talk to their teacher in physical education about speed and distance, and have a better understanding of the size of different units [ITii30] [ITiii92].

Lydia’s synthesis of different subjects brings about multiple selections of communication. She states ‘You try and cross it across as much as you can so that your subject ends up in lots of other subjects too. And, hopefully, vice versa’, and ‘If I hear anything back, it’s great. I use it’ [ITiii92]. The evidence for the orientation of the “educational identity” (Maton, 2007, p. 96) of her emotional practice towards ‘process’ is supported by an episode in which Eadith does maths during science, using the conversational analytic notion of “uptake”<sup>27</sup> as a validating tool (Sarangi, 2003, p. 168). On discovering that Eadith is doing maths, Lydia tells her ‘Eadith. Put that away. We

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<sup>27</sup> Sarangi (2003) provides the conversational analytic notion of “uptake”, or “responses to feedback” (Lyster & Ranta, 1997, p. 37), as a validating tool at the level of text or discourse. I understand that a focus on the learner’s response provides one more piece of evidence for the ‘underlying rules’ of an emotional practice on account of the teacher’s invitation to learners to share similar feelings and norms.

don't do maths in here' [LTvi32]. This receives the response 'But we do', upon hearing which she smiles, and states 'Not today' [LTvi33-34].

### ***Mastery in A and holism in A***

Lydia's high-low value ascriptions concerning mastery realize 'internal' relations marked by weak classification and framing. Her high-low value ascriptions concerning 'scientific' discourse are revealed when she prompts a learner to use a 'good science word', in lieu of a less 'scientific' one<sup>28</sup>. For example: She prompts a learner to use the word 'decrease' instead of 'smaller' (selection of communication), and positively appraises the word 'decrease' as a 'good science word' (evaluation criteria). She does not instruct the learner to copy the answer verbatim from a scientific text, nor to simply write it in her own words. Instead, she prompts the learner to move back-and-forth between 'scientific' and 'everyday' discourse (sequencing) (*Figure 4.2.1-I*).

[ATiii136-142 day 3, time: 33.42]

iii	136	T: Instead of saying the parachute size got smaller, what's another word you could use?
iii	137	S1: Does the answer need to be changed?
iii	138	T: No, no. Just instead of saying the parachute size got smaller you could say it?
iii	139	S1: Decreased.
iii	140	T: That's a good science word, try those. As the parachute size decreased the time.
iii	141	S1: Decreased.
iii	142	T: Yip.

-C	<b>Classification</b>	Holism in A and Mastery in A.
-F	<b>Communication</b>	The word 'decrease'.
	<b>Pacing</b>	'That's a good science word, <u>try</u> those'.
	<b>Sequencing</b>	' <u>Instead</u> of saying the parachute size got smaller, what's another word you could use?'
	<b>Criteria</b>	'That's a good science word'. [ATiii136-142 day 3, time: 33.42]

KEY -C Weak Classification -F Weak Framing

<sup>28</sup> For example: [LTiii201-205] [LTix236-243] [LTix298-300] [LTix303-308] [LTxiii350-356]

*Figure 4.2.1-I Weak classification and framing for ‘scientific’ discourse*

### **3. Internal Relations: Responding to the Learners’ Feelings**

For Lydia’s responsiveness to the learners’ feelings, I examine her high-low value ascriptions concerning the learners’ feelings with regards to a dislike of mathematics. Her focal attention towards the learners’ feelings results in the synthesis of different kinds of representations, revealed through the orientation of the different aspects of framing towards ‘process’, namely: the selection of communication, pacing, sequencing and evaluation criteria. It is of interest that the evidence for her attentiveness towards her learners’ feelings is supported by her recognition of feelings marked by a high-low degree of expressivity in the description of the learners’ emotion-expressive behaviour. For example: She registers feelings of ‘sadness’ through making eye contact:

I make eye contact very carefully with all of them as they come in the door...I can see who’s unhappy, who’s sad, who’s tired, who’s been crying, who’s been fighting. And that I think is quite important, well for me, and my class. [ITi84-88]

She describes feelings of ‘frustration’ as requiring little visual display, they are palpable from the classroom atmosphere:

The sheer frustration of my ESOL learners with the language, the matching words and terms today. Because I was looking at some of them, ‘ignimbrite flow’. They couldn’t even say the word let alone get anything out of it. That sheer frustration. And you can see it on them, and they work so hard. So you can sense it, it’s almost, it’s in the air. [ITiii66]

The evidence for her attentiveness towards her learners’ feelings is also supported by the steps she takes during the school day to learn more about how her learners are feeling. For example: She (1) Checks the learners’ uniforms as they enter the classroom to gauge how each learner is feeling [ITi84]; (2) Asks a learner in class, or a staff member at the school, how the learners’ previous lesson has gone [ITiii142]; (3) Looks for ‘red slips’ in the dean’s pigeon hole to find out if learners have been given detention prior to coming to



her class [ITiii68]; and (4) Checks the attendance register, or sign out book, to see if a learner has gone to the doctor, or is having her braces fixed [ITiii142].

***Mastery in  $A_1$  and mastery  $A_2$ .*** When I telephone Lydia the morning before the unit on motion starts she states ‘They’re going to hate me, because it’s numbers’ [FNv]. Her behaviour demonstrates an awareness of the learners’ feelings. Lydia is able to say ‘how’ the learners’ feel, and ‘why’ the learners’ feel that way. As a result of her awareness of the learners’ feelings she is able to engage in voluntary regulatory activity in the regulation of her learners’ feelings concerning maths.

Lydia and the learners spend a period (pacing) on unit conversions (selection of communication) the day before the ‘official’ start date of the unit (sequencing). In operating accordingly, importance is given to the preparation of the learners for the mathematical component of the unit (evaluation criteria). She tells the learners ‘What I want you to do is get good at it [unit conversions]’ [LTv183], and ‘I just want you guys to feel comfortable with it before we start’ [LTv386]. As a result, weak classification and framing mark the lesson as shown in the figure below.

–C	<b><i>Classification</i></b>	Mastery in $A_1$ (lesson on motion) and $A_2$ (lesson on conversions).
–F	<b><i>Communication</i></b>	‘Playing with numbers’. [LTv10]
	<b><i>Pacing</i></b>	‘We’re going to spend the period’. [LTv95]
	<b><i>Sequencing</i></b>	‘We’re starting our new topic officially <u>tomorrow</u> , which is motion, <u>today</u> we are going to play with numbers’. [LTv10]
	<b><i>Criteria</i></b>	‘I just want you guys to feel comfortable with it before we start’. [LTv386]

*Figure 4.2.1-II Weak classification and framing for an activity on unit conversions*

In 4.2.1 I examined the implications of Lydia’s favouring of an ‘axiological’ emotional principle for pedagogic relations by bringing value to the fore. For primary relations, her high-low value ascriptions concerning mastery are revealed through the absence of regulatory boundaries in space, and punctuations in time: She ‘breaks’ into the learners’ ‘territory’ during class to assist them and continuously changes her position within the

space of the classroom. She also seats those learners who are interested in science, and those who are not, together. For ‘external’ relations, e.g. mastery in A and B, Lydia’s high-low value ascriptions bring about weak classification and framing, and appear to reveal emotion generation, or regulation, through (re)appraisal (focus: micro level). (Her use of the emotion regulation strategy of reappraisal is supported by her direct communication of her use thereof.). Lydia ascribes worth to physics, and to the learners’ subjects other than physics. For physics, she values the learners’ interest, and responds to the eagerness of learners by giving them more of that which they enjoy. In terms of her own feelings with regards to physics, she relays her interest as having grown as the trajectory of her career has unfolded communicating that she now has a ‘very big’ interest in physics. For the learners’ other subjects, she deploys her attention towards the learners’ other studies and talks to various staff members so that the learners can do physics in other learning areas. An example of a “less specialized” (Bernstein, 2000, p. 7) text for mastery is evident when Lydia talks to the physical education teacher during the unit so that the learners could learn about speed and distance in physical education, and have a better understanding of the size of different units. Her role as the learners’ technology teacher also evidently shapes the classroom text, as she refers to the “tools” (Lemke, n.d.c, p. 1) used in food and fabric design, such as ‘blenders’ and ‘tape measures’, to teach physics. At an ‘individual’ level, Lydia’s high-low value ascriptions realize an emotional practice of graded feelings. Her high-low value ascriptions build a pedagogic subject with regards to value that ascribes a high-low degree of worth to mastery in A. At a ‘social’ level, Lydia’s high-low value ascriptions realize relations in which there is an absence of a dislocation between the individual (the ‘inner’) and the social (the ‘outer’). For example: She expands the dialogic space to those who dislike physics through her acceptance of their feelings. The expansion of the dialogic space to the learners’ feelings of dislike is evident as the learners visibly raise their hands in response to the question: ‘How many of you hate this?’. For ‘internal’ relations, e.g. mastery and holism in A, her high-low value ascriptions concerning mastery bring about relations characterized by ‘process’, or change. Her high-low value ascriptions concerning ‘scientific’ discourse are revealed when she prompts her learners to use a ‘good science word’, in lieu of a less ‘scientific’ one, resulting in the back-and-forth

movement between ‘everyday’ and ‘scientific’ discourse. For Lydia’s responsiveness to the learners’ feelings, her attentiveness towards her learners’ feelings realizes relations marked by weak classification and framing. (It is noteworthy that her attentiveness towards her learners’ feelings appears to be supported by her recognition of feelings marked by a high-low degree of expressivity in the description of her learners’ emotion-expressive behaviour.). Her awareness of the learners’ dislike of mathematics enables her to engage in voluntary regulatory activity so that her learners feel more comfortable with the mathematical component of the unit before the first lesson on unit conversions.

### 4.2.2 Evaluation and Subjectivity

In 4.2.2 I address the implications of Lydia’s favouring of an ‘axiological’ emotional principle for *subjectivity* by bringing control to the fore. I outline the implications of her high-low ability ascriptions, firstly, for her, and then for her learners. In order to do so, I examine subjectivity at three levels: At an intrapersonal level, I focus upon enhancement, i.e. the experience of boundaries as “tension points between the past and possible futures” (Bernstein, 2000, p. xx). At an interpersonal level, I consider the extent to which a teacher or learner feels included socially, intellectually and/ or personally. Lastly, at a communital level, I examine the participation of the teacher and learner.

Prior to addressing the pedagogic communication for Lydia, I highlight that the evidence for her favouring of high-low ability ascriptions is supported by her description of herself, in her role as teacher: She disregards the portrayal of the teacher as ‘adult’, and the learner as ‘child’, saying ‘There’s a differential that a child should speak to the adult first. No, give it away’ [ITiii132]. Lydia provides a genealogy of change concerning the manner in which her practice has come to foreground ‘non-linearity’ [ITi214]. If we trace the trajectory of her career, the transition appears to be signaled by the removal of her ‘lab coat’, donned as a younger teacher, which she states is done on account of having greater control over her emotions. She remarks ‘I don’t need to [wear my lab coat] anymore, I have my emotions under control’ [ITi174-176].

## 1. The Pedagogic Communication: Lydia

***Intrapersonal level.*** Lydia's high-low ability ascriptions bring about graded opportunities for 'enhancement' in the building of subjectivity. Her appraisal of her ability to do physics is formulated on the basis of her knowledge of certain aspects of physics. Commenting on the manner in which physics isn't her 'forte' [ITiv42], she says 'I'm no physicist. I failed physics my entire way through school, and through university. But now I understand it in little pieces' [ITii22]. Her appraisal of her ability to teach her learners physics also takes into consideration the particular. For example: She recollects feelings of happiness elicited upon a learner's amazement at the ease with which she solved a physics calculation, saying '[I 'focus' on the] little things, like when [name] could work out how to do one of the problems and she went, 'Is that right?' And I said, 'Yes.' And she said, 'But that's easy'" [ITi50-64].

Lydia also has a high-low 'action-outcome expectancy' in terms of the learners' ability to do physics that is revealed through her feelings of 'anger'<sup>29</sup>. She conveys feelings of anger on account of her learners' low ability ascriptions, and their unwillingness to put in effort for the unit, saying 'Their constant saying that they were thick...or they didn't want to. The didn't want to do it is the thing that made me angry, wouldn't try, yeah' [ITiii36]. She outlines her 'goal' to be to send her learners into Year 11 'feeling positive' about physics [ITi28]. She states 'I want to get them interested and derive some pleasure from success in it' [ITii22]. Her perseverance in getting the learners to 'buy in' [EDExii] is evident from her remark 'Hopefully, we'll get there somewhere between now, and the end of the year' [ITi28].

***Interpersonal level.*** Lydia's high-low 'action-outcome' expectancies realize graded opportunities for 'inclusion'. She appraises staff members at the school as not all having a high 'action-outcome expectancy' in terms of the lower band learners' ability to do physics, and communicates feelings of 'anger' when 'people won't give [the learners] a

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<sup>29</sup> Weiner (1984) provides 'anger' as an indirect cue that inadvertently communicates to the recipient high ability ascriptions.

shot' [ITiii86]. She expands the classroom community to an emotional investment in mastery by inviting others into the science classroom. For example: For a newly arrived ESOL learner, she invites the ESOL head of department into the science classroom, and together they work to assist the learner. Lydia also introduces the learner to two other ESOL learners in the lower band class. The two ESOL learners to whom the learner is introduced were similarly welcomed. Recalling the learners' arrival, she remarks:

First year at the school, terrified...They cried, and cried, because they weren't doing well. And I hooked them up with a couple of my lovely Year 11 students who had started the same, and had cried. [ITi128]

**Communital level.** Lydia's high-low degree of personal control realizes graded opportunities for participation and brings 'solidarity' to the fore. Her high-low 'action-outcome expectancy' in terms of her learners' ability to do physics is evident when she: (1) Provides her learners with tasks of intermediate difficulty<sup>30</sup>; (2) Prompts the learners to solve a problem on their own<sup>31</sup>; (3) Prompts the learners to attend to the problem<sup>32</sup>; and (4) Places emphasis on the resource of effort<sup>33</sup>. Her emphasis on attending to a problem is evident when she gets a learner to extract the relevant information for a problem on circuits. On asking Lydia 'Is it [switch] one, four and six?' the learner receives the response 'I don't know, read the question'. When the learner persists, asking 'Where is [switch] six?' she tells her 'I don't know. Find it. Got to look' [LTiii360-363]. Lydia's emphasis on the resource of effort is evident for an exercise on unit conversions when she prompts the learners to 'keep going' [LTv351] as she walks around the classroom, saying 'You've just to practice them lots. Otherwise, or else, they don't work' [LTv349].

Lydia's high-low 'action-outcome' expectancy concerning the ability of the staff members in the different departments at the school, to equip the lower band learners to do physics, is revealed in her day-to-day interaction with them. She tries to modify the situation at the school by prompting staff members to appraise the lower band learners positively. For example: She positively appraises her learners' efforts for an episode in

<sup>30</sup> For example: [LTi233] [LTi390] [LTii79] [LTii106-118] [LTii233-243]

<sup>31</sup> For example: [LTii20-24] [LTiv219-224] [LTiv240-242] [LTiv273] [LTiv348-358]

<sup>32</sup> For example: [LTvi188-189] [LTix445-450] [LTxi295] [LTxi301-302] [LTxi368]

<sup>33</sup> For example: [LTv409] [LTv414] [LTvi1-3] [LTxi173] [LTxi315]

which the head of department enters the classroom in search of a piece of apparatus. Lydia makes a space for her to participate within the classroom community by asking her, as the Year 13 physics teacher, to check a problem a group of learners are working on. As the head of department does so, she conveys her excitement to her that the learners are working at level ‘Excellence’, and introduces the learners by name. The pedagogic communication becomes more dialogically expansive to mastery as the head of department joins her in the episode in praising the learners for their efforts:

[LTiv396-418]

<i>iv</i>	396	T: [The head of the department walks in.]. Hi Ms. [name].
<i>iv</i>	397	HOD (Head of department): You wouldn't have that great big heavy magnet in here, would you?
<i>iv</i>	398	T: Yes, I have. It would be here.
<i>iv</i>	399	HOD: Ooh, it's usually attached to something. Right, how's it all going?
<i>iv</i>	400	T: Well, we're just working on a question. Could you come and check, cause I think this is right. [The HOD takes a look at the learner's solution.]...
<i>iv</i>	410	T: This is [name]. And [name], and [name] have just done it as well. They're doing really well...
<i>iv</i>	411	HOD: So they're working at level Excellence?
<i>iv</i>	412	T: Greatly.
<i>iv</i>	413	HOD: Very good. They did that on their own?
<i>iv</i>	414	T: Yip.
<i>iv</i>	415	HOD: Cool.
<i>iv</i>	416	T: I told them yesterday they're all getting up to the Excellence level. I'm quite excited.
<i>iv</i>	417	HOD: No, that's very good...
<i>iv</i>	418	T: [Lydia speaks to the learners once the HOD has left.]. Ms. [name] teaches physics, so I get her to check.

Lydia's high-low ability ascriptions, through her emphasis on the ‘little things’, realize a pedagogic communication that acts on the ‘meaning potential’ in an expansive manner. The pedagogic communication is expanded to interpersonal and ideational meanings concerning mastery for A (for example: the lower band learners and ESOL head of department). The expansion of the potential discourse available to be pedagogized is evident when she provides her learners with tasks of intermediate difficulty. It is also evident when she invites the ESOL head of department to assist her with a newly arrived

ESOL learner. An ‘ideal-non-ideal’ pedagogic subject is constructed with regards to control that involves a high-low degree of controllability concerning mastery for A.

## 2. The Pedagogic Communication: The Learners

Having considered the pedagogic communication with regards to mastery for Lydia, I look at the pedagogic communication for her learners. In order to do so, I address the implications of her high-low ability ascriptions for a learner who tends to inconsistently apply herself to her studies [ITii144]. I begin at an intrapersonal level by examining enhancement for mastery, a condition for ‘confidence’: “Where that right is not met then neither students nor teachers will have confidence, and without confidence it is difficult to act” (Bernstein, 2000, p. xx). I then focus upon inclusion at an interpersonal level, a condition for ‘communitas’. Lastly, at a communital level, I look at participation.

### 2.1 The Pedagogic Communication: A Learner

*Intrapersonal level.* An ‘axiological’ emotional principle involves a language of description that may be relayed to the learners concerning appraisals of a high-low degree of controllability (i.e. appraisals that operate on a cline). Lydia aligns a learner into formulating high-low ability ascriptions by placing an emphasis on the resource of effort. In addition, when the learner conveys feelings of dislike for fractions, she indicates to the learner that as she becomes increasingly more competent, she may come to like the work. Lydia relays the genealogical pathway she has traversed concerning her own mastery of fractions, saying ‘I used to hate fractions until I got used to them’:

[LTv367-374]

v	364	T: Okay, so they're not doing too badly.
v	365	S1: They're quite easy.
v	366	T: Yeah, the problem is the practicing of, and to remember which way you do things as you go.
v	367	S1: I just don't get some of those millimeter ones, the millimeters are hard.
v	368	T: Millis are a thousand.
v	369	S1: I know.
v	370	T: They're the smallest.

v	371	S1: I don't get all the zeroes and the, ugh.
v	372	T: I know that's where it gets really hard.
v	373	S1: I like whole numbers, whole numbers make sense.
v	374	T: [Unclear] I used to hate fractions until I got used to them.

**Interpersonal level.** An ‘axiological’ emotional principle builds an emotional practice that presents graded opportunities for inclusion. The inclusion of a learner may be revealed through the extent to which the learner is visible in the classroom. The visibility of the learner is revealed when Lydia notices the learner’s efforts in physics by preparing flashcards at home, and asks her if she can show the flashcards to the rest of the class. Although she positively appraises the learner’s efforts, it is evident from the excerpt below that the learner anticipates certain of her peers will not. The conflict the learner experiences in trying to simultaneously align to the value position of Lydia and her peers is evident when she permits Lydia to show the other learners her flashcards on condition that she does not divulge who made them. The learner’s actions are in line with the “action tendency” for shame, namely “to hide” (Lazarus, 1991, p. 244). Although Lydia does not mention the learner by name, her peers are able to determine who made the flashcards, and negatively appraise the learner. Eadith calls out ‘Go, [name]’, and states further ‘You have too much spare time’ [LTvi49-50].

[LTvi44-52]

vi	44	T: That [the flashcards] is cool.
vi	45	S1: I know.
vi	46	T: That'll really help. Can I show them?
vi	47	S1: Sure. As long as you don't say that it was me who made it.
vi	48	T: Uh, guys. This is something that you can do with your cue cards. You can stick them onto cardboard, and then you've got them all there to learn. And it's really, really useful. It's a really good thing to do.
vi	49	Eadith: Go [name]...
vi	50	Eadith: You have too much spare time.
vi	51	Ss: [There is some laughing and talking.].
vi	52	T: Sshh, it would be useful. Sshh [name], and [name]. You need to stop talking, or you'll have to move. It would be really useful for you to do that.

**Communital level.** An ‘axiological’ emotional principle involves a high-low degree of participation as the teacher, for example, engages with the learner to varying degrees.



When the learner declines Lydia's offer of flashcards for graphing later on Lydia accepts her feelings. The learner articulates that she does not want any more flashcards when her friend questions the motive behind the activity. As the learner's actions are played out under the gaze of her peers, there appears to be strong classification between the learner's private feelings, and the public feelings she displays.

[LTxvii374-381]

<i>xvii</i>	374	S2: Why do we have so many flashcards?
<i>xvii</i>	375	T: Cause they usually help [unclear].
<i>xvii</i>	376	S1: Do we have to do this?
<i>xvii</i>	377	T: If you don't want them, that's fine. Give them back to me.
<i>xvii</i>	378	S1: I don't want anymore, I've got too many of them.
<i>xvii</i>	379	T: Sorry.
<i>xvii</i>	380	S1: I don't want anymore, I've got too many of them.
<i>xvii</i>	381	T: Okay.

Lydia also helps the learner when she subsequently asks her how to download the flashcards from the school intranet. She states 'She's checked now with me where on [name] drive are all these things...So, I just went through how to get there again'. Lydia acknowledges the conflict the learner experiences in trying to attain multiple goals simultaneously, and expresses sadness that she feels she needs to go to such lengths, stating 'She doesn't want to lose face by...letting anybody else see that she's going and doing it. But she's doing it again' [ITii144].

When the learner works 'well' [ITiv74] at school Lydia notices and praises her. After there is a change in the learner's 'work ethic', she relays 'positive comments' made in the teachers' staff room to the learner [ITiv74]. When the learner expresses disapproval of her efforts being made public [ITiv74], Lydia encourages her not to hide her feelings from others, but to be proud of herself. She tells the learner 'We are very proud of the fact that you are working, and you are allowed to be proud of yourself' [ITiv74].

Lydia's high-low ability ascriptions bring about a pedagogic communication that acts on the 'meaning potential' in an expansive manner. The pedagogic communication is expanded to interpersonal and ideational meanings concerning mastery for A (i.e. the

learner who works inconsistently) to varying degrees as revealed through her variable behaviour in response to the learner's feelings: She accepts the learner's refusal to participate on one occasion, and assists her to access the necessary resources on another. A pedagogic subject is constructed with regards to control that involves a high-low degree of controllability concerning mastery for A.

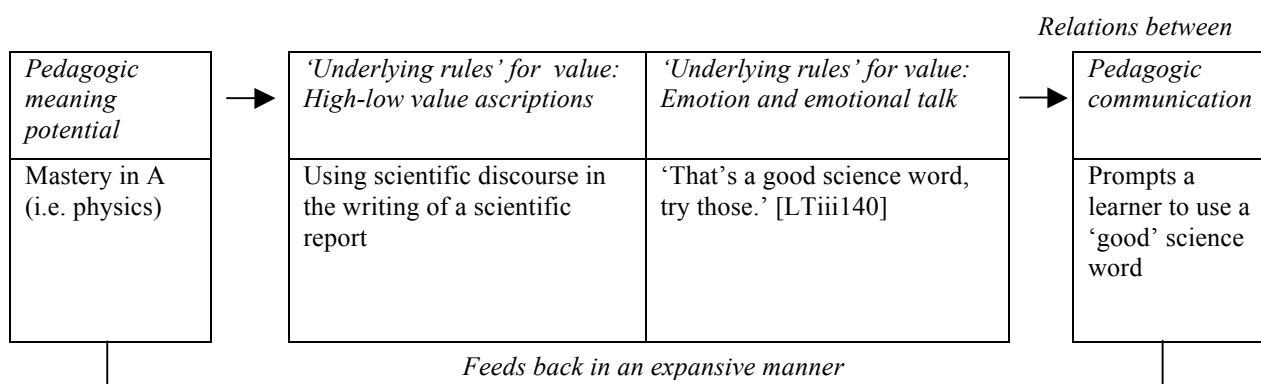
In 4.2.2 I looked at the implications of Lydia's favouring of an 'axiological' emotional principle for subjectivity by bringing control to the fore. For control with regards to Lydia, I examined the implications with regards to the building of the pedagogic communication for mastery. Lydia favours high-low ability ascriptions in the building of the pedagogic communication, and explicitly articulates her preference for formulating high-low ability ascriptions by indicating that she focuses upon the 'little pieces' [ITi50]. For example: She formulates high-low ability ascriptions in terms of her own ability to do physics – she states that she now understands physics in 'little pieces'. She also has a high-low 'action-outcome' expectancy, revealed through her feelings of 'anger', with regards to the ability of the learners to do physics, and the staff member's ability to equip the learners to do physics. Her high-low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in an expansive manner: She extends the pedagogic right of enhancement, inclusion and participation to two ESOL learners, for example, by asking for their assistance with a newly arrived ESOL learner. She conveys her excitement that the lower band learners are working at level 'Excellence' to staff members.

For control with regards to the learners, I considered the implications for enhancement, inclusion and participation for the learners using an example of a learner who either applies herself to her studies, or doesn't. Lydia's high-low ability ascriptions realize a pedagogic communication that is expanded to interpersonal and ideational meanings concerning mastery for A (i.e. the learner who works inconsistently). Her behaviour aligns the learner into formulating high-low ability ascriptions, and assists the learner to access the necessary resources for physics. The pedagogic communication becomes

increasingly more dialogically expansive to mastery as the learner begins to work again, and she conveys her feelings of pride to the learner for her efforts.

### 4.2.3 Summary

In sum, Lydia favours high-low value and ability ascriptions with regards to mastery. The processing of emotional information at a specific level realizes ‘relations between’ and ‘within’ marked by weak classification and framing. For value, she appraises the word ‘decrease’ as a ‘good science word’ and prompts the learners to use a more ‘scientific’ word, in lieu of a less ‘scientific’ one. For control, she displays feelings of anger on account of the learners’ low ability ascriptions and gives the learners tasks of intermediate difficulty. Her high-low value and ability ascriptions build a pedagogic subject that feeds back on the meaning potential in an expansive manner. I illustrate the building of a ‘non-linear’ model of emotion for Lydia, for the category of mastery, as shown in the figure below.



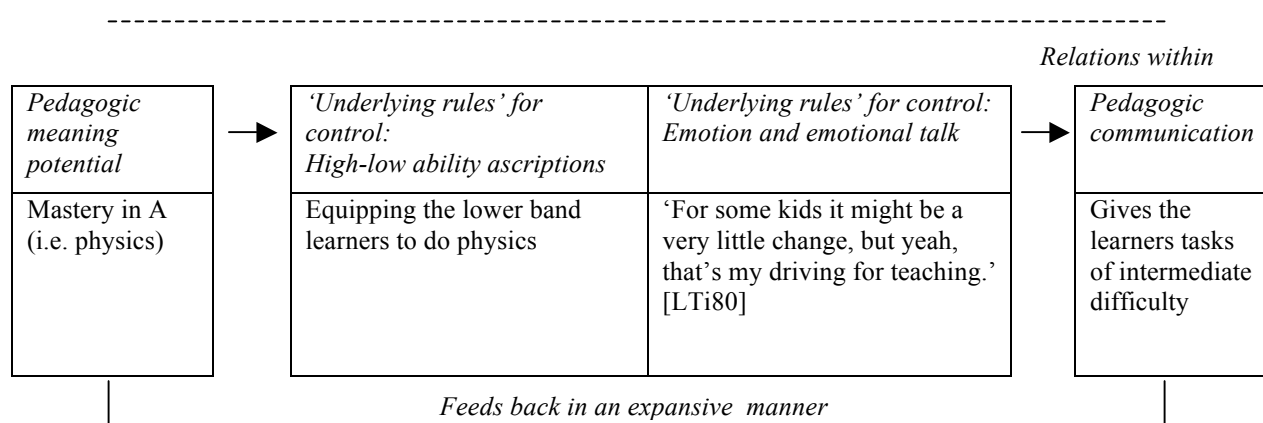


Figure 4.2.3-I The building of a 'non-linear' model of emotion for mastery

## 4.3 An Emotional Investment in Rapport for Julia

### Introduction

*In my first year teaching I taught a young guy called [name] who...had a lot of issues with one particular teacher. He used to quite often come to me in tears. And he was just so frustrated because this woman, quite honestly I hated her as well, she was just a horrible, evil woman, but nonetheless, she was the teacher, and he was the student. And so I talked to him a lot about just having to shut up and take what she was saying. And that it was okay to come and vent that to me, or to vent that later, but not to vent it to her. [ITc62]*

In the excerpt above, Julia sharply contrasts her relationship with a learner, with the relationship the learner has with another teacher. She also places emphasis on controlling one's emotions and the emotion-focused coping strategy of venting. In 4.3 I examine the principles that appear to guide Julia's dialogic behaviour with regards to rapport. I do so to uncover more fully why, for example, she permits the learner to display feelings of anger around her, rather than the other teacher. I begin by looking at the interactions between the level of evaluation and relations, and then consider the interactions between the level of evaluation and subjectivity.

### 4.3.1 Evaluation and Relations

In 4.3.1 I look at the implications of Julia's favouring of an 'ideological' emotional principle for *pedagogic relations* by foregrounding value. I consider the implications in terms of primary relations of space and time by mapping out the 'emotional geographies' of Julia and her learners' movements. In addition, I examine the implications in terms of relations between the pedagogic context, and context external to it, or 'external' relations.

#### 1. Primary Relations of Space and Time

Julia's high value ascriptions concerning rapport realize regulatory boundaries in space, and punctuations in time. When Julia performs a demonstration, she tends to gather the learners around her, and in so doing, constructs an intimate space in the classroom. For example, for a demonstration on the conductivity of an assortment of materials, Julia brings her learners together, saying to them 'Gather around this side bench for me please, and just leave room for me to stand here [in the centre] please. Okay girls, could you just gather around a little bit more' [LTb110].

In drawing her learners closer and closer the boundary outlining the periphery of the gathering becomes progressively stronger. As learners clamber up onto benches to see Julia, the learners tower over her, enclosing her, as she stands in the centre of them. The space between her, and all of her learners, is reduced from the start of the demonstration to when the learners disperse thereafter. In comparison, when Lydia performs the same demonstrations for which Julia's learners are collectively brought together, she does not do likewise<sup>34</sup>.

#### 2. External Relations

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<sup>34</sup> [LTb110] [FN2008.07.24] [LTh48] [LTviii15] [LTt54] [LTxx40]

For ‘external’ relations, e.g. rapport in A (namely, the science classroom community) and B, I unpack Julia’s high or low value ascriptions for rapport in A. In other words, I examine her selection *or* non-selection of interpersonal and ideational meanings for rapport in A. Julia’s high or low value ascriptions for rapport in A appear to reveal inconsistencies that emerge through a weakening in the classification. In addition, her high or low value ascriptions realize relations marked by strong classification and framing, and reveal an emotional practice of powerful commitments and intense feelings.

Ahead of addressing relations for rapport, I highlight that the evidence for Julia’s emotional practice as one of strong feelings is supported, firstly, by her excitement at the opportunity to record a salient emotional episode. For an emotional episode for which the emotional intensity is recorded as ‘9’ on a Likert scale of ‘0’ through to ‘10’ she states ‘I’m so excited, cause I’ve got my emotion for today’ [LTf375]. Secondly, it is supported by her description of her emotion-expressive behaviour as involving either a high or low degree of expressivity. For example, she tries to ‘hide’ feelings of ‘frustration’:

If I was just feeling frustrated generally in the class, I’d probably, ugh, I don’t know what I do when I’m frustrated, actually. Because, I think that I’d really try to hide that, so it might not be so visually obvious in the class. But, I think when I’m frustrated, I just try to take a deep, take a breath. [ITc40]

She ‘actively’ tries to ‘display’ feelings of ‘pleasure’:

I think that [feelings of pleasure] would be really visual, and obvious. And they’re not emotions that I try to hide in the class either. In fact, I think that I actively display them, because I think they’re positive things to be displayed. [ITb39]

She explicitly communicates feelings of ‘anxiety’:

If I’m anxious in the class, or often, I think I verbalize that. So, I’ll tell the students how I’m feeling. But, I think I might talk a bit more slowly, or carefully, or yeah, I’m not too sure actually. Sorry. [ITd10]

### ***Rapport in A and rapport in B***

**High value ascriptions.** Julia's high value ascriptions concerning rapport in A realize 'external' relations marked by strong classification and framing. Julia tends to construct the science classroom as a space of love, trust and security. Metaphorically, the walls of the science classroom may be seen to keep out feelings of hate, distrust and insecurity mapping out the terrain of feelings as 'systems of oppositions' as outlined in 2.2.2.

**Affection.** Julia ascribes importance to affection in terms of her relationship with the learners. She foregrounds feelings of affection in the classroom by communicating her feelings of 'love' [LTp2] for the learners directly to them<sup>35</sup>, and in her diary by describing feelings of affection as a 'constant' 'underlying feeling' in her pedagogic practice [EDEe]<sup>36</sup>. She also provides her relationship with her learners as a central motive in her day-to-day teaching:

My affection for the students has always really been a big part of my teaching. That's what makes me enjoy my teaching, that's what makes me come here in the morning. It's not [slightly laughs] that I particularly think I'm teaching them anything important. [ITa130]

Julia conveys that she does not relate feelings of anger to the unit [ITc64]. She appraises the learners as 'cute' [LTel41] and expresses that she would really like to 'play' [ITc92] with them when they misbehave. If the learners misbehave, she role-acts the 'grumpy teacher', and relays that it is simply such to the learners [LTq261]. If feelings of anger are not expressed, the relationship may be one of love, rather than love-hate, as anger plays a role in the renegotiation of relationships (Oatley, 1993).

**Trust.** Julia ascribes importance to trust in terms of her relationship with the learners. In contrast to Lydia, who does not tend to relay her trust in the learners to them directly, she does tend to do so. For example, she trusts a group of learners to do their own work during a practical assessment task as she momentarily exits the classroom, saying 'I

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<sup>35</sup> [LTp10-12] [LTr81-84]

<sup>36</sup> [EDEb] [EDEe] [EDEm] [EDEp] [EDEv] [EDE for Ac day4]

totally trust you...So, don't let me down' [ATc72-74 day 2, time: 30.52]<sup>37</sup>. She draws upon the 'maximiser' 'totally' construing the intensity of her feelings as being at the highest possible intensity (Martin & White, 2005, p. 142).

**Security.** Julia ascribes value to security in terms of her relationship with the learners. In contrast to Lydia, she constructs the classroom as 'safe', rather than 'safe' *and* 'unsafe'. She remarks 'I think the girls need to trust that [the classroom] is an emotionally safe place' [ITa54]. In relaying a genealogy to feelings of security, she states that feeling safe is 'fundamental' and has 'always been there' in terms of her pedagogic practice [ITa138].

**Guilt.** Julia ascribes worth to 'moral' behaviour by bringing feelings of 'guilt' to the fore, saying: 'Occasionally, I think that guilt has its place in the classroom' [ITd6]. For her own feelings of guilt, she remarks 'Just for myself, I know that I try to do everything right so that I don't feel guilty' [ITd72]. For feelings of guilt pertaining to the learners, she says 'If a student is feeling guilty, I think that they've probably done something wrong, and so I guess to a certain extent I might be a bit judgmental about that' [ITd61]. These feelings though, she relays, would be 'quite short lived', as she would try to assist a learner to make right, or 'fix', the situation [ITd61].

**Low value ascriptions.** Julia's low value ascriptions concerning rapport in A realize 'external' relations marked by strong classification and framing, and reveal inconsistencies in her emotion and emotional talk concerning the expression of her feelings for the learners. Julia gives preference to the word 'affection' to describe her feelings towards her learners rather than the word 'love'. When she talks about her 'fond[ness]' [ITa286] for a learner, she says 'Well see, I want to call that love again. But, I guess that's like affection for her' [ITa116].

Julia's description of the school as a 'professional place' [ITa234] may explain her reluctance to use the term 'love'. In contrast, Lazarus (1991) treats love and affection as "more or less the same emotional state" (p. 274). The word 'love' is seen as 'slightly too

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<sup>37</sup> [LTa233] [LTa306] [LTi194-200] [LTi446-449] [LTu313] [LTu347-351]



strong a word' [ITa36]. She says 'I don't love the girls. I mean, when you actually deeply look at the word love. But I use the word love, because I guess, I say it in kind of a more, slightly more flippant way' [ITa40]. In portraying the expression of her love as done in a manner deemed flippant, her feelings may be seen to be lacking in authenticity.

In 4.3.1 I examined the implications of Julia's favouring of an 'ideological' emotional principle for pedagogic relations by foregrounding value. For primary relations, her high value ascriptions realize regulatory boundaries in space and punctuations in time evident from the intimate spaces she builds when she gathers her learners around for a demonstration. For 'external' relations, e.g. rapport in A and B, Julia's high or low value ascriptions realize relations marked by strong classification and framing. What high value ascriptions does she formulate? Julia ascribes a high degree of value to 'love' communicating her feelings of love directly to the learners, and places an emphasis on 'trust' articulating her trust in the learners to them. She also ascribes value to 'security' aiming to build a classroom that is an 'emotionally safe place', and ascribes worth to 'moral' behaviour through an emphasis on 'guilt'. And what low value ascriptions does she formulate? Julia ascribes a low degree of value to feelings of 'love' and describes the expression of her feelings as done in a manner deemed 'flippant'. At an individual level, Julia's high or low value ascriptions for 'love' appear to reveal a dislocation between inner experience and outer expression. In addition, her high or low value ascriptions realize an emotional practice of strong feelings. (The recognition of intense feelings is supported by her description of her emotion-expressive behaviour as involving either a high or low degree of expressivity.). Julia's high value ascriptions build an 'ideal' pedagogic subject that ascribes a high degree of worth to rapport in A. At a social level, her high or low value ascriptions insert a dislocation between the individual (the 'inner') and social (the 'outer') that is evident from the proprietorial relationship that she fosters with her learners.

### 4.3.2 Evaluation and Subjectivity

In 4.3.2 I examine the implications of Julia's favouring of an 'ideological' emotional principle for *subjectivity* by foregrounding control. In the first instance, I consider the implications of her high or low ability ascriptions for own enhancement, inclusion and participation concerning rapport. Secondly, I look at the implications of her high or low ability ascriptions for the following three aspects of the language of description: the orientation (comparative/ individualistic), the level (general/ specific) and the criteria (explicit/ implicit). Lastly, I address the implications for the enhancement, inclusion and participation of a learner with regards to rapport.

### 1. The Pedagogic Communication: Julia

***Intrapersonal level.*** Julia's high or low ability ascriptions realize opportunities or constraints for 'enhancement' in the building of subjectivity. At an individual level, Julia appraises herself as competent in her relationship with her learners. In recalling the start of her career, she relays feeling 'anxious' to 'even walk into a room of teenagers' [ITd88]. However, despite being anxious that she would be unsuccessful in terms of 'building relationships' she says this 'proved' to be 'not correct' [ITd88]. Instead, she says 'My relationships with the students were quite good right from the start, I think' [ITd90].

Julia may consider that she is unable to develop a relationship with all of her learners due to a low 'action-outcome expectancy' in terms of the ability of some of her learners to be polite. She expresses feelings of sadness, and pities a lower band Year 11 learner, for not being able to control her anger outbursts in class. She also communicates a sense of powerlessness with regards to assisting the learner, remarking 'When she's got to that space where she's frustrated, she just can't handle it, and she can't let me help her. And so I feel really sad for her, and yeah, just really sad at how she'll be in life when she is like that' [ITc80].

At times Julia considers that she is able to invest adequately into her relationship with a learner. She remarks 'I sometimes think that I'm making a difference in some kid's life,

and that feels really nice' [ITa288]. At other times, she relays experiencing intense feelings of frustration on account of not making 'enough' of a difference [ITa288]. Although Julia expresses a desire to spend time with a newly arrived ESOL learner [ITa286], she communicates that she doesn't have the time to do so. She says 'There's not enough time in a day to get to know a hundred and twenty kids, or whatever it is. There's just not enough time' [ITa242].

***Interpersonal level.*** Julia's high or low 'action-outcome' expectancies realize opportunities or constraints for 'inclusion'. In contrast to her portrayal of her and the learners' relationship as one of mutual respect and care, she portrays the learners' relationship with members of the community external to the science classroom as hostile. For example, she expresses feeling 'upset' by those teachers who 'yell' at the learners in their other classes, saying 'I do see that they're children, and I'm a responsible adult, and I'm in charge of their care. And I don't think that it's alright to show anger to them' [ITc46]. In addition, she relays how her students 'absolutely hated' [ITa212] a student teacher who taught them the unit on physics in Year 9, remarking 'In a horrible, bitchy way, I think I just felt quite smug about my teaching because...I knew how lovely they were with me, and how wonderful they were with me' [ITa214].

It would seem Julia constructs herself as an 'ideal' when she provides the possible reason for her students dislike of the student teacher, as their desire for the student teacher to be her [FN2008.08.20]. In constructing herself accordingly, she sets out to take the learners under her wing and protect them from others. She states 'When I see how other people, well, another person [the student teacher], is with them, it's awful. And I just felt so bad for the kids, I couldn't wait to get them back' [ITa214]. At the start of the unit on motion, she publicly hints at the negative appraisal both she and a prior student taught in Year 9, share of the student teacher. In recollecting a history of past conflictual relationships, she may strengthen the boundary between the classroom community, and those communities that reside outside, as shown in the excerpt below.

[LTf38-42]

<i>f</i>	38	T: Right, I'm going to take you back to Year 9 now.
<i>f</i>	39	S1: Yah.
<i>f</i>	40	T: And [name], you'll love this. I'm going to take you back to Year 9 physics, and in Year 9 physics, [name] and I had a very pleasant experience, didn't we [name]? In Year 9 physics, with our trainee teacher.
<i>f</i>	41	S2: Ah, she was lovely. Ah, she was brilliant.
<i>f</i>	42	T: Yes, I know.

**Political level.** Julia's high or low degree of personal control realizes opportunities or constraints for participation. Her appraisal of her low degree of control to assist the lower band Year 11 learner mentioned above is revealed from her tentative behaviour in dealing with the learner. If the learner has an anger outburst, she 'crouch[es] down' next to her to be as 'small' as she can be, because she remarks, 'I know she doesn't like me in her space' [ITc80]. She also 'calmly' repeats her name several times to get her attention, and tells her 'Love, I'm trying to help you' [ITc82].

Julia's appraisal of her low degree of control to develop a relationship with all of her learners, due to time constraints, is evident as she chooses to develop relationships with some of her learners, and not others [ITa130]. In investing 'everything' into these learners, she is able to develop an intimate relationship with them:

One thing that I decided in my first year of teaching, was that there's just not enough time to care about all the students. And I know in my first year teaching I almost picked what students I was going to care about, and put time and energy into. Because there just wasn't time to do that for all of them, and I don't think that I'm as consciously aware of that now. [ITa130]

Julia's desire to develop a close relationship with her learners, means that when she resigns from Verda Girls' High during the year of this study, she applies for a teaching post at a local primary school [FN2008.09.15]. She remarks 'At primary, I would quite like the idea of spending all day with the same kids, and then having much more in-depth relationships with them' [ITa242]. In selecting to work at a primary school, she regulates her feelings through 'situation selection'.

Julia's high or low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in a contractive manner. The pedagogic communication is expanded to interpersonal and ideational meanings concerning rapport for A (e.g. select learners, or the primary school context), and contracted to interpersonal and ideational meanings concerning rapport for B (e.g. the ESOL learner mentioned above, or the high school context following Julia's resignation). An 'ideal' pedagogic subject is constructed with regards to control that involves a high degree of controllability concerning rapport for A. This subject concerns 'power', 'vertical' relations and the 'male controlling code'.

## 2. The Pedagogic Communication: The Learners

Having considered the pedagogic communication with regards to rapport for Julia, I look at the pedagogic communication for her learners. I begin by considering the 'underlying rules' for the pedagogic communication relayed in the process of transmission and acquisition. I do so by drawing upon an example that involves two learners who talk during a four-day assessment task. Following this, I consider the implications of an 'ideological' emotional principle for enhancement, inclusion and participation for a learner. I likewise do so by drawing upon an example concerning a learner who cheats on the last day of the same assessment task for the unit on physics using 'crib notes'.

### 2.1 The 'Underlying Rules' for the Pedagogic Communication

*The orientation.* Julia's favouring of an 'ideological' emotional principle foregrounds a language of description concerning social comparison. In a classroom that operates according to a social comparative orientation there is public disapproval of inappropriate behaviour. When the two learners talk to each other during the assessment task an 'example' is made of the learners. On witnessing the learners' behaviour she displays feelings of anger in the public arena of the classroom, stating 'Hey, hey, hey. What's going on?'. She gives the learners 'Not Achieved' for a section of the assessment task, and reinforces that which is deemed to be appropriate, stating 'There is no talking in a test, carry on' [ATc9-14 day 1, time: 10.13; ATc15-18 day 1, time: 15.43].

In Julia's classroom it appears the negotiation of a relationship of approval-disapproval to inappropriate behaviour is private on account of the operation of the classroom according to a social comparative orientation. When one of the learners reprimanded begins to cry later on, she whispers a 'secret' in the learner's ear, stating 'Hey, hon. Don't worry about it' 'I was stricter with you than I'm really going to be'. She further presents her emotional response to the learners' misbehaviour, during the assessment task, as simply a public display of disapproval. She tells the learner 'I had to come down really hard on you...to make an example while everyone is listening...Teachers fake it sometimes' [ATc15-18 day 1, time: 15.43].

**The criteria.** The underpinning of Julia's emotional practice by an 'ideological' emotional principle brings explicit criteria to the fore. Her appraisal of the learners' behaviour is explicit, and leaves little room for doubt as to what is considered to be appropriate behaviour in a test. When the two learners talk to each other, she reinforces that which is deemed to be appropriate stating 'There is no talking in a test', and 'When I say it's test conditions, it's test conditions'. She also places emphasis on being explicit. She praises one of the learners, who remains after class to provide her account of what took place, for being honest, saying 'I really respect how honest you've been'. The learner's honesty is praised a total of four times [ATc9-14 day 1, time: 10.13; ATc15-18 day 1, time: 15.43; ATc42-55 day 1, time: 44.39].

**The level.** Julia's favouring of an 'ideological' emotional principle foregrounds a language of description to do with the general processing of emotional information. When the learner remains after class to provide her account of what took place, Julia's response suggests the learner is deemed to have committed a wrongful act. On closing the door, she says 'Right, let's hear it'. She does not appraise the learner positively *and* negatively on hearing the learner's account. Instead, Julia gets the learner to 'promise' that she is trustworthy. She asks the learner 'Can you absolutely promise me that you weren't asking her how to write the aim [of the experiment]?' [ATc42-55 day 1, time: 44.39].

On the third day of the assessment task, Julia permits the two learners to redo the section for which they were given 'Not Achieved'. Taking a piece of paper and glue she covers up their prior answers, saying 'So, I'm just going to basically cover it up. That works, hey? Ewe, sticky. Excuse me love, and then I just want to see that you've rewritten it without talking to anyone'. In doing so, feelings of dishonesty that 'stick' to the learners' answers are erased. As she pastes the piece of paper over the learners' answers, she comments to the learners 'It's amazing what problems you can fix'. That which was deemed flawed, is made right [ATc77-79 day 3, time: 11.14; ATc94-98 day 3, time: 22.15].

## 2.2 The Pedagogic Communication: A Learner

*Intrapersonal level.* An 'ideological' emotional principle involves a language of description that may be relayed to the learners concerning appraisals of a high or low degree of controllability. Julia prompts a learner to appraise her behaviour negatively when she is caught cheating on the last day of the same assessment task. She does so through a public display of sadness by standing at the front of the classroom and crying. When I approach her during the incident, and offer to look after the learners momentarily, she replies 'I think it's very good for them to see that I'm upset, because they will remember that too. So they can just have it' [ATc149 day 4, time: 21.05].

On providing the "core relational theme" for guilt, Lazarus (1991) states "Guilt is felt when we believe we have acted in a morally deficient way, all the more so if in so doing we have wronged or harmed an innocent other" (p. 240). Julia's prominent display of sadness, through the bodily expression of tears, is likely to cause the learner to feel very guilty for "having transgressed a moral imperative" (Lazarus, 1991, p. 240), as the learner is made to bear witness to the pain her actions have inflicted upon her teacher.

In contrast to Lydia, Julia does see a place for feelings of guilt in the classroom. She says 'I think that guilt has its place in the classroom when, if a relationship of kind of respect

and trust is being built up, then I think guilt can be useful to kind of subtly reinforce that' [ITd6]. Referring to the incident, Julia frames her feelings of sadness in terms of her concern for the learners. She says 'When I was sad I was actually quite fine with them seeing me sad, because I wanted them to know that I cared about them. And that's part of that concern for them' [ITa180].

***Interpersonal level.*** An 'ideological' emotional principle builds an emotional practice that presents opportunities or constraints for inclusion. Julia's construction of the classroom community as trustworthy means that the classroom is likely to be characterized by a low degree of inclusion of the learner. This seems to be apparent as she relays the incident to the whole class, after they inquire after her, rather than engage in dialogue with the learner. Julia comments 'We've never really talked about it directly...I talked about it indirectly. Because the class asked me' [ITc4].

Her construction of the classroom community as trustworthy though is also brought into question by the event. In other words, her appraisal of the learner as untrustworthy has implications that extend beyond her appraisal of the learner. Julia's appraisal of the other learners, the school, the context beyond the school, and indeed herself, is brought into question. Rimé (2007) refers to the effects of emotions that extend beyond the specific emotion-eliciting event as the "collateral consequences" (p. 473) of emotional events:

Situation specific meanings such as "goal blocked," "danger," "no control," and "no escape" easily spread to broader meanings such as "the world is unsafe," "I am vulnerable and helpless," "I am not in control," "I did poorly," and "life is unfair." Such meanings affect how the person views the world and how the person views him- or herself. (Rimé, 2007, p. 473)

The "*temporary destabilization*" (Rimé, 2007, p. 473) of Julia's "symbolic universe" (Rimé, 2007, p. 473) seems apparent from her recording of 'confusion' and 'shock' for the emotional episode in her diary [EDE for Ac day 4]. She writes 'I straight away felt really sad and disillusioned and sort of incredulous – I couldn't believe it' [EDE for Ac day 4]. It appears the classification and framing that marks her emotional practice is



made apparent by the emotional experience, and she is made to feel the weakness of its architecture:

[Emotional events] disconfirm expectations, models, and world views...any emotion has some impact on this symbolic architecture because emotion precisely develops at its fissures – or where things are unexpected and/ or go out of control. By making fissures apparent, emotion makes us feel the weakness of the construction. (Rimé, 2007, p. 473)

**Political level.** An ‘ideological’ emotional principle involves a high or low degree of participation as the teacher, for example, engages with/ disengages from the learner. After the incident in which the learner cheats, the learner is given little opportunity to restore her relationship with Julia. She displays tentative behaviour toward the learner, and does not engage in dialogue with the learner about what took place [ITc4]. In relaying her feelings towards the learner, she describes having ‘quite a lot of negative thoughts’ [ITa122]. She does not appraise the learner positively and negatively, but instead tries to treat the learner ‘normally’ [ITa122]:

I’m finding this week, I’m finding quite a lot of negative thoughts about her. Like, I do feel distrust towards her, I do feel that, I don’t know, I don’t trust any of the other grades she’s done, and I don’t trust that she would tell me the truth now about something. And I’m trying really hard just to treat her normally. But, I wouldn’t say I dislike her, I don’t dislike her. But, I’m finding it quite hard to be as affectionate towards her as I might have been previously. [ITa122]

In line with the “action tendency” for guilt, the learner does, however, go about trying to make reparations in the weeks following the incident (Lazarus, 1991, p. 243). Julia comments that since the event the learner appears to be ‘bending over backwards’ to get into her ‘good books’ [ITc8]. Five weeks after the incident, when I ask Julia about her relationship with the learner, she appraises the learner positively once more. She relays how the learner is in her ‘good books’ again, saying ‘I’ve got no issue with her anymore, it’s passed’ [ITc8].

Julia’s high or low ability ascriptions realize a pedagogic communication that acts on the ‘meaning potential’ in a contractive manner. The pedagogic communication is contracted

to interpersonal and ideational meanings concerning rapport for A (i.e. the learner deemed to have transgressed a moral imperative), and expanded to interpersonal and ideational meanings concerning rapport for B (i.e. the rest of the class). Julia's actions prompt the learner to appraise her behaviour negatively and provide constraints for inclusion and participation. An 'ideal' pedagogic subject is constructed with regards to control that involves a high degree of controllability concerning rapport for B.

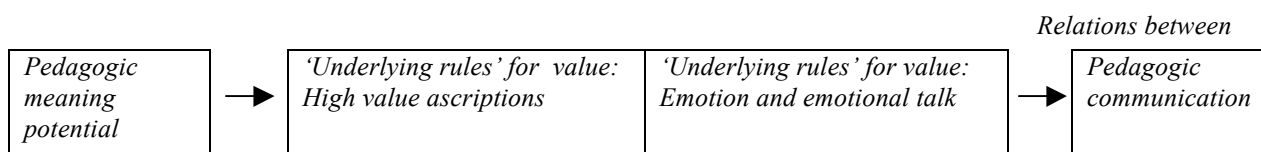
In 4.3.2 I looked at the implications of Julia's favouring of an 'ideological' emotional principle for subjectivity by foregrounding control. For control with regards to Julia, I examined the implications with regards to the building of the pedagogic communication for rapport. Julia favours high or low ability ascriptions in the building of the pedagogic communication. For example, she demonstrates a high 'action-outcome' expectancy concerning rapport for A (the science classroom community) and a low 'action-outcome' expectancy concerning rapport for B (e.g. a student teacher). She appraises her relationship with the learners as one of mutual respect and care and strengthens their relationship by relaying stories of past conflictual relationships. She also has a high 'action-outcome' expectancy concerning rapport for A (the primary school context) and a low 'action-outcome' expectancy concerning rapport for B (the high school context). She expresses difficulty in developing a relationship with a newly arrived ESOL learner due to time constraints, and selects to work at a primary school following her resignation at Verda Girls' High in order to develop 'in-depth' relationships. Her high or low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in a contractive manner. The pedagogic communication is expanded to interpersonal and ideational meanings concerning rapport for A, *not* for B.

For control with regards to the learners, I examined the implications for the language of description relayed through the process of transmission and acquisition, using an example of two learners who talk during a test. An 'ideological' emotional principle brings social comparison, explicit criteria and the general processing of emotional information to the fore. Julia places emphasis on social comparison in the episode through the public expression of her disapproval of the learners' behaviour. She formulates explicit

appraisals by reiterating appropriate behaviour for a test, and praising the learners' honest account of what transpired. She processes emotional information at a general level by getting one of the learners to promise that she did not 'cheat'. I also considered the implications for enhancement, inclusion and participation for a learner. Julia's high or low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in a contractive manner. The pedagogic communication is expanded to interpersonal and ideational meanings concerning rapport for A, *not* for B (the learner who 'cheats'). Julia does not engage with the learner but rather relays the incident to the whole class after they inquire after her. Her actions align the learner into appraising her behaviour negatively, and provide constraints for inclusion and participation. Her subsequent reappraisal of the learner weeks after the event realizes a pedagogic communication that is expanded to B once more.

### 4.3.3 Summary

In sum, Julia favours high or low value and ability ascriptions with regards to rapport. The processing of emotional information at a general level realizes 'relations between' and 'within' marked by strong classification and framing. For value, she ascribes a high degree of worth to feelings of 'love' and communicates her feelings of 'love' directly to her learners. For control, she relays having inadequate time to care for all of the learners, and selects to teach at primary school to develop more in-depth relationships. Julia's high or low value and ability ascriptions build a pedagogic subject that feeds back on the meaning potential in a contractive manner. I illustrate the building of a 'linear' model of emotion for Julia, for the category rapport, as shown in the figure below.



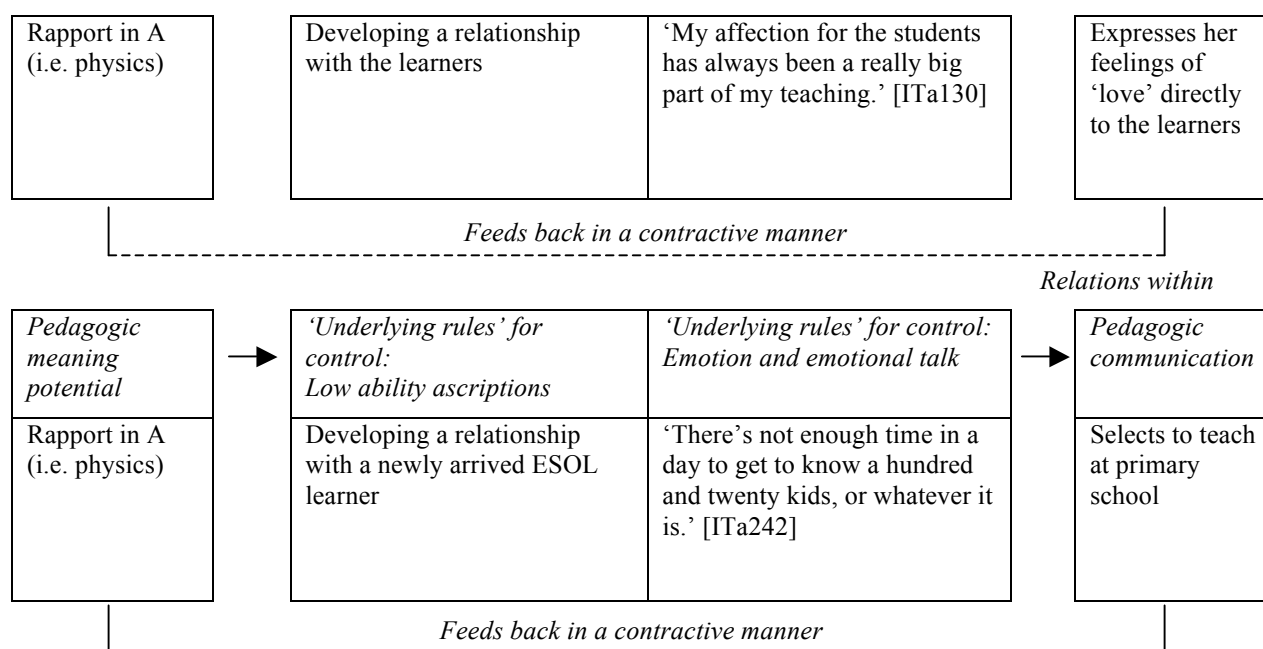


Figure 4.3.3-I The building of a 'linear' model of emotion for rapport

## 4.4 An Emotional Investment in Rapport for Lydia

### Introduction

*The one I'm about to challenge is I don't like being called 'Miss'. It's a title. My name is Ms. [Lydia] Delmore, or excuse me, if you want to contact me. Yeah, I'm sick of 'Miss'...It's appropriateness. It's how you refer to people...It's got no reference to me whatsoever...It's doing that, removing the title...They've got another teacher in social studies...She's working on it as well. So we're going to do a nice little joint effort, and move it.* [ITiii78-80]

In the excerpt above, Lydia places emphasis not only on the use of the vocative 'Miss' to get her attention, but on the use of her surname as well. She collaborates with the Year 10 lower band learners' social studies teacher, who likewise feels similar to her, to prompt the learners to use a "name-based" vocative (Eggin & Slade, 1997, p. 146). In 4.4 I examine the principles that appear to inform her dialogic behaviour with regards to rapport. I do so to understand more fully why, for example, she places emphasis upon

‘removing the title’. I begin by looking at the interactions between evaluation and relations, and then consider the interactions between evaluation and subjectivity.

### 4.4.1 Evaluation and Relations

In 4.4.1 I look at the implications of Lydia’s favouring of an ‘axiological’ emotional principle for *pedagogic relations* by foregrounding value. I consider the implications in terms of primary relations of space and time by mapping out ‘emotional geographies’ of Lydia and her learners’ movements. In addition, I examine the implications in terms of relations between the pedagogic context, and context external to it, or ‘external’ relations.

#### 1. Primary Relations of Space and Time

Lydia’s high-low value ascriptions concerning rapport realize the absence of regulatory boundaries in space, and punctuations in time. An absence of regulatory boundaries is evident as she continuously negotiates the importance of permitting learners to sit together, and separating those deemed to go off task. In positioning and repositioning the learners within the space of the classroom, there is an ever changing seating arrangement in her classroom<sup>38</sup>. In negotiating the space between learners, Lydia ascribes importance to rapport. When a learner asks ‘Can I sit next to [name]?’ she responds ‘Yip, absolutely. Can’t have you [name] by yourself’ [LTiii6-7]. In addition, Lydia ascribes importance to mastery. After separating a learner from her friend, she tells her ‘I’m trying to look after you [name], so you can get your work done dear’ [LTiv243].

#### 2. External Relations

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<sup>38</sup> For example: [LTiv173-178] [LTiv181-182] [LTvi5-7] [LTvi16] [LTvi122]

For ‘external’ relations, I unpack Lydia’s high-low value ascriptions, i.e. selection *and* non-selection of interpersonal and ideational meanings, for rapport. I examine her high-low value ascriptions by directing my attention “beyond Aristotelian limits of clear-cut closed systems” (Weigand, 2000, p. 2). Lydia’s high-low value ascriptions bring about relations marked by weak classification and framing realizing the synthesis of different kinds of representation, namely rapport in A (i.e. the science classroom community) and B (e.g. the learners’ relationships external to the classroom). In addition, her high-low value ascriptions reveal an emotional practice of graded feelings.

In advance of considering relations for rapport in A and B for Lydia, I draw attention to the manner in which the evidence for her emotional practice as one of graded feelings is supported by her description of her emotion-expressive behaviour as involving a high-low degree of expressivity. For example, for feelings of ‘anxiety’, she provides the “action tendency” for ‘anxiety’, namely “avoidance or escape” (Lazarus, 1991, p. 238), saying ‘If I’m anxious I’ve usually just sat down at the front and given up’ [ITiv10]. For ‘pleasure’, she simply states ‘Pleasure. I would have a smile’ [ITii36]. And for feelings of ‘frustration’, she states:

I would have my lips pursed when I was frustrated with no smile, and very, very dull eyes. And probably looking over the top of my glasses. I tend to do that to them, and give them the look. Which some of them, my last years class, always said that. Ooh, it’s the look. [ITiii16]

### ***Rapport in A and rapport in B***

Lydia’s high-low value ascriptions concerning rapport in A realize ‘external’ relations marked by weak classification and framing. She ascribes importance to teacher-learner, and peer-peer relationships. In developing a close relationship with the learners she refers to them as ‘cherubs’, ‘young ladies’ and ‘kiddy widdies’ [ITiv124]. Her reference to the learners accordingly is done in part to construct a community in which the learners feel ‘comfortable’, and loved [ITiv124]. Referring to her use of vocatives, she comments ‘It’s

an affectionate thing, and some of them won't like it no matter what you use, but a lot of them actually quite like it' [ITiv124]<sup>39</sup>.

Lydia also ascribes importance to the relationships the learners are involved in external to the community of the science classroom. In seeking greater intimacy with her learners she tries to reduce the space between her and them in the classroom, saying '[If you] get them closer to you, you can promote discussion' [ITiv96]. In drawing nearer, and listening closely to what the learners are talking about, she tries to start a conversation with the learners that evolves from what is of interest to them [ITiv96]:

It's listening to what they're saying. If they're having a conversation about their boyfriend... You actually let them know you've noticed. So I'll say, 'Who's Paul?' And that, immediately you're now part of that little piece of their life. And so if you meet them in the street, they introduce Paul... All I can do is try and make spaces, and they also have to be prepared to let me make the spaces.  
[ITiv96]

In addition to the relationship Lydia has with her learners in the context of the science classroom, she puts effort into developing a relationship with the learners outside of this environment too. She talks to the learners on the street [ITiv96], and in and around the school [ITiii132]. She also greets the learners if she sees them on vacation. In the context external to the classroom the learners may be more knowledgeable than her. It is evident from the learners' reaction upon meeting her on the ski slopes that they may find it difficult to construct themselves and her accordingly:

It [caring for the learners] is just all through finding out about their holidays, asking them where they're going, meeting them on the ski field, having them nervously ride the T-bar with me because, 'Ooh, it's my teacher.' And I'm saying, 'What are you worried about? You can ski so much better down that hill.' 'How do you know?' 'I saw you.' 'Oh, oh. Do you want any pointers Ms. [Lydia] Delmore?' 'Yes please, how to get off this thing for a start would be nice'.  
[ITiii132]

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<sup>39</sup> Eggins and Slade (1997, p. 145) indicate that the addresser tends to use redundant vocatives to develop a closer relationship with the addressee.

Lydia's feelings of affection for the learners are based upon her evaluation of them both within and outside of the context of the classroom. The intensity of these feelings may be seen to operate on a cline, rather than being either high or low. In talking about her feelings of affection, she 'plays' with the word 'love' upscaling and downscaling these feelings as if negotiating the degree of intensity of these feelings that she feels comfortable with towards her learners:

I am very, very fond of all of those girls and have spent time finding out a bit more about them from their form teacher, and things like that, just their issues I suppose. So yeah, I have this great warmth for them, yeah, I do, I do. I love them as a group. I think they're amazing. [ITi26]

If the learners meet Lydia outside the context of the classroom their trust in her may be based upon their evaluation of her both within and outside of this environment. Referring to the trust the learners place in her on the basis of their appraisal of her both internal and external to the science classroom, Lydia says 'They give the impression of being more bonded that they have met you in different ways. So therefore they feel that they can trust you' [ITii104].

Lydia appraises the classroom as both 'safe' and 'unsafe', and as a result, tries to regulate her learners' feelings through 'situation selection'. In talking about the regulation of feelings of anxiety within the environment of the science classroom, she says that she tries to find 'simple ways' to get a learner to a 'space' in which the learner feels 'happy and safe' because those around her talk to her, and explain the work to her [ITii48] [ITiv52]. Lydia also appraises the environment external to the science classroom as both safe and unsafe, and as a result, tries to create safe spaces for her learners in the school, regulating her learners' feelings through 'situation modification'. For example: When Eadith is having a 'rough time' with a few of the learners in the school, and needs a safe space to be, she sews with her in the sewing room during interval.

Eadith really enjoyed it, and lots of warm fuzzies is the biggest thing she can have in her life. And there were lots of kids there from other levels right through to the top class there doing sewing...And she ended up helping some of them do some



unpicking, while they did some of her sewing...So she got a lot of kudos there as well, yeah just make it safe. [ITi146-150]

Lydia sees little place for feelings of guilt in the classroom. This may be due to the weak classification and framing that mark her emotional practice which would expand the dialogic space to that which is deemed to be socially acceptable. In terms of her own feelings of guilt, she says 'It's not in the classroom, yeah, it's out of the classroom. I don't do that in the classroom...It's not the appropriate place to take it' [ITiv24-26]. For feelings of guilt pertaining to her learners she light-heartedly remarks 'There isn't a lot of guilt in that room from them, no not at all' [ITiv58].

Lydia's relationship with the learners both internal and external to the science classroom shapes the classroom discourse, and the text that is constructed for the unit. For example: When Lydia and the learners construct a distance time graph, she begins by narrating a story to the learners for them to graph in which she travels to school by car, and parks in the school car park outside. Continuing the narration of the story, Eadith refers to her youngest daughter, Sophia, at Verda Girls' High, and eldest daughter, Leila, who is studying at university:

[LTxiii424-431]

<i>xiii</i>	424	T: I've driven to school, I stopped in the car park.
<i>xiii</i>	425	Eadith: You've gone to go drop Sophia off, and pick up Leila.
<i>xiii</i>	426	T: Right, I've driven to the university after I've been at school to pick up Sophia. Now, how do I go home? Where's the line for going home?
<i>xiii</i>	427	Eadith: [unclear] I saw Leila.
<i>xiii</i>	428	T: No, wait on, wait on, just leave Leila for a minute. Where's home? I've picked up Sophia, I'm at the university. How do I get home?
<i>xiii</i>	429	S1: You go down and across.
<i>xiii</i>	430	T: I go down ccchhh and I'm home.
<i>xiii</i>	431	S1: Yip.

As a result, the text that is constructed is one that gives importance to the relationships that both Lydia and the learners are involved in, outside of the context of the classroom. Weak classification and framing mark the dialogue between Lydia and the learners. In negotiating the boundary between rapport in A (the science classroom) and rapport in B

(Lydia's family) the recognition and realization rule for what constitutes a legitimate text is oriented towards change.

In 4.4.1 I examined the implications of Lydia's favouring of an 'axiological' emotional principle for pedagogic relations by bringing value to the fore. For primary relations, her high-low value ascriptions realize the absence of regulatory boundaries in space as she continuously positions and repositions learners, in the negotiation of the importance given to connection, by changing their seating arrangement. For 'external' relations, e.g. rapport in A and B, Lydia's high-low value ascriptions bring about relations marked by weak classification and framing at an individual and social level: She ascribes importance to teacher-learner and peer-peer relationships, as well as the learners' relationships external to the classroom. She constructs the community internal and external to the classroom as one of love, trust and security, and moves back-and-forth between these communities, that include the learners, negotiating her involvement in them. The weak classification and framing that marks Lydia's emotional practice, and expands the dialogic space to that which is deemed to be socially acceptable, appears to be supported by her low value ascriptions concerning feelings of guilt. An example of a 'less specialized' text for rapport is evident for a lesson on graphing when the text constructed is one that gives importance to relationships both her and the learners are involved in external to the classroom. Lydia's high-low value ascriptions also realize an emotional practice of graded feelings. (The recognition of graded feelings is supported by her description of her emotion-expressive behaviour as involving a high-low degree of expressivity.).

#### **4.4.2 Evaluation and Subjectivity**

In 4.4.2 I examine the implications of Lydia's favouring of an 'axiological' emotional principle for *subjectivity* by foregrounding control. I consider the implications of her high-low ability ascriptions for her own enhancement, inclusion and participation for rapport. In addition, I look at the implications of her high or low ability ascriptions for the

following three aspects of the language of description: the orientation (comparative/ individualistic), the level (general/ specific) and the criteria (explicit/ implicit).

### 1. The Pedagogic Communication: Lydia

***Intrapersonal level.*** Lydia's high-low ability ascriptions realize graded opportunities for 'enhancement' in the building of subjectivity. Her appraisal of the success of her relationship with her learners, foregrounds the particular that takes place on a day-to-day basis. A learner need only share a positive word, or two, for her to acknowledge her affection, and express appreciation thereof. Commenting on a usually 'grumpy' student, who is 'terribly angry' at the moment, she says 'If she's had a good day, she'll come and say something positive as she comes into class' [ITi94]. Lydia constructs her relationship with her learners as emotional. It is both positive and negative, with its 'ups and downs' [ITi94]. As the learners have 'so many difficulties' that reside outside of school, she remarks 'You cannot help but have emotional responses to them, and they have emotional responses to you within the school' [ITi22].

Lydia considers that she is increasingly able to develop a relationship of mutual love, trust and care with her learners. Her 'baseline belief that basically [the learners] are all good' reveals a high-low 'action-outcome expectancy' concerning her learners' ability to demonstrate care, for example, towards others [ITiii138]. Although Eadith may 'fire' or end up in a 'fist fight' when she gets 'in strife', she does not appraise her simply as bad. Instead she considers it to be a 'bad patch', and one from which Eadith is able to recover, and get 'back in her own little kilter' [ITi146]. A genealogy of change is revealed as Lydia recalls previous students who have 'kicked the traces', and for whom the 'wheels [have] fall[en] off' [ITiii138]. Commenting on one such learner she remarks 'She's doing really well now. It's quite nice catching up with her' [ITiii136-138].

***Interpersonal level.*** Lydia's high-low 'action-outcome' expectancies realize graded opportunities for 'inclusion'. She appraises Verda Girls' High as a friendly environment, saying 'I'm incredibly happy at school, I find school a happy place' [ITi22]. Commenting

on the degree to which the science department is dialogically expansive to rapport, she says ‘We share, and look after each other, and that’s the way it has to be’ [ITiii146]. In her interaction with her colleagues from the science department, Lydia engages in the “social sharing of emotions” (Rimé, 2007, p. 467). This is evident as she sets up her lesson before class starts, and shares her feelings of frustration with the science teacher from the previous class.

[LTxi6-10]

<i>xi</i>	6	T: They're really nice kids, but they just don't have the get up and go to keep going. Like I've got real sickies, I've got kids that don't come, I've got one that is absent at least two out of four periods. So it makes it really tricky...
<i>xi</i>	7	T2: [unclear] [Lydia's colleague sympathizes.].
<i>xi</i>	8	T: Yeah, it's actually quite, challenging is a good word for it...
<i>xi</i>	9	T2: [unclear] [Lydia's colleague wishes her luck.].
<i>xi</i>	10	T: Thanks darling. It'll be fine, always fine.

In addition to the science department, Lydia appraises other departments to be dialogically expansive to rapport. She remarks that teaching technology, as well as science, has given her ‘more freedom within the school’ [ITii102]. Her use of the word ‘freedom’ points to her movements as fairly unrestricted as she operates within a space that is less bounded, and more expansive, in relation to Julia. In addition to having greater access to staff, Lydia also teaches more of the Year 10 learners. As she teaches most of the learners technology for a specified period during the year, she gets to know most of them. Commenting on her relationship with the learners as one in which most would be happy to have a conversation with her in the hallways, she says ‘It’s a nice thing, I think that’s good if they’ve got people they can do that with’ [ITii102].

As Lydia has a high-low ‘action-outcome expectancy’ concerning her learners’ ability to behave appropriately towards others, she considers that she is able to increasingly develop a relationship with her learners. She voices feelings of frustration when colleagues of hers at the school do not have the same expectations of their learners. Of one student Lydia taught previously she says ‘I wished everybody could have seen this kid was fine’ [ITiii138]. To teach the learners how to interact appropriately with various people, she invites others into her classroom, saying ‘I think the more students at that

level interact with adults the better for them, because they also learn standards of appropriateness, and all sorts of things' [ITi136].

**Communital level.** Lydia's high-low degree of personal control realizes graded opportunities for participation and brings 'solidarity' to the fore. She tries to develop a better relationship with her learners, and teach her learners to behave appropriately towards her and others. The action taken by her in the classroom includes:

- Promoting discussion by listening to what the learners are talking about as she walks around the classroom [ITiv96]; and
- Modelling appropriate behaviour between her and the learners, and those she invites into the classroom [ITi136].

The action taken by Lydia outside of the context of the classroom includes:

- Finding out how to have tea with those learners who stay at the boarding house for Verda Girls' High [LTxiii621-625]; and
- Sewing with the learners, and providing extra tutoring in science, in the sewing room during interval [LTx2-5].

Lydia also tries to encourage other staff at Verda Girls' High to appraise themselves as able to develop a relationship with their learners. Commenting on the manner in which she points out specific learners who have made changes to staff members at the school, she light-heartedly remarks 'I do talk in the staff room, go and chat with them, especially teachers who don't have a high regard for them. Well, they do, but they've given up. Their high regard went within a week, sort of thing' [ITiii90]. She admits that it may take time to develop a relationship with the learners, saying 'Sometimes it can take all year, and that's fine' [ITiv96].

Lydia's high-low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in an expansive manner. The pedagogic communication is expanded to interpersonal and ideational meanings concerning rapport for A (namely, each of the learners in the class), and rapport for B (e.g. learners taught in prior years, and members of the local community). The expansion of the potential discourse available to be

pedagogized is evident as members of the local community are invited into the classroom to teach the learners standards of appropriateness. An ‘ideal-non-ideal’ pedagogic subject is constructed with regards to control that involves a high-low degree of controllability concerning rapport for A and B.

## 2. The Pedagogic Communication: The Learners

Having considered the pedagogic communication for Lydia, I look at the pedagogic communication for her learners. I begin by considering the ‘underlying rules’ for the pedagogic communication, that are relayed in the process of transmission and acquisition, with regards to the orientation. I then look at the ‘underlying rules’ with respect to the criteria and level. In order to do so, I draw upon several incidents to do with rapport, such as an incident in which Eadith is sent outside the classroom for making ‘rude’ comments.

### 2.1 The ‘Underlying Rules’ for the Pedagogic Communication

***The orientation.*** Lydia’s favouring of an ‘axiological’ emotional principle foregrounds a language of description concerning an individualistic orientation. When a learner distracts her friends by talking to them during class, she appraises her as inconsiderate of others. In addressing the learner’s behaviour, Lydia asks the learner to remain behind after class, and talks to her individually. She appraises her dealings with the learner, in trying to foster a win-win situation for all, as ‘very tricky’ [REPORT2008.09.02]<sup>40</sup>.

When [name] has been absent from class due to sickness and I have spoken to her friends, they acknowledge that when she is there they are distracted and take little care in their work – a no win situation for them – and for me. It is a delicate balance to keep them in line and not isolate [name]. [REPORT2008.09.02]

Lydia’s appraisal of the learner’s behaviour as unacceptable pertains to the learner as an individual. Whereas certain behaviour may be seen to be unacceptable for one learner, for another learner it is not. When the learner adopts a social comparative orientation after

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<sup>40</sup> [REPORT2008.09.02] refers to a report kindly written by Lydia on the learner, after I asked her for further information on the learner.

being sent to the back of the class, and compares her behaviour to that of her friends, Lydia aligns her to see that she is interested in her alone.

[LTviii348-365]

viii	348	S1: You're like, 'Go sit at the back'. Like Eadith sits there humming, and oh, 'Shot gun the black car'. And I sit here quietly. And then [name] goes, 'Why are you kicking my chair?' And I said, 'I'm not'. And you said I have to stay behind...
viii	365	T: Forget about the other kids, it's you and me is the important thing at this stage.

As the learner prepares to go to her next class, Lydia demonstrates her willingness to continue to put effort into their relationship, saying 'We'll try again [tomorrow]' [LTvii371]. Her awareness of the learner outside the context of the science classroom assists her to offer a positive appraisal as well. She responds 'Cool, wonderful' [LTviii375] after she finds out that the learner has completed her 'drapery' [LTviii373].

**The criteria.** The underpinning of Lydia's emotional practice by an 'axiological' emotional principle brings implicit criteria to the fore highlighting 'process'<sup>41</sup>. Lydia describes the learners as 'tangential', saying 'I trust them, but that trust could always be eroded if they proved they couldn't be trusted' [ITi26]. Her description of the learners as such appears to suggest the manner in which their relationship involves negotiation of degrees of intimacy and distance. Lydia places emphasis on trustworthiness, when a learner returns a pin to her after pins start to mysteriously disappear from the school sewing room. Appraising the learner neither positively, nor negatively, she instead appraises herself negatively, saying 'Thank you. I knew I dropped them' [LTxxii239].

**The level.** Lydia's favouring of an 'axiological' emotional principle foregrounds a language of description to do with the specific processing of emotional information. In

<sup>41</sup> In line with Bernstein (2000) I use the term "implicit" (p. 46) to indicate the recognition and realization rules for the 'ideal' text are implicit. As discussed in section 2.3.3, if the recognition and realization rules for the 'ideal' text are implicit, the recognition and realization rules for the 'ideal-non-ideal' text are explicit. In other words, the emotional practice is in possession of a recognition rule concerning high-low value ascriptions and a realization rule concerning high-low ability ascriptions [Section 2.3.1]. High-low value and ability ascriptions orient the emotional practice towards 'process', or change [Section 2.4.3].

formulating an appraisal of the learners' behaviour she draws upon information concerning the learners external to the classroom. For example, Lydia asks a learner about their previous class for a lesson in which Eadith and her friend are sent outside for passing obscene comments [LTvii251]. In finding out that their maths lesson was 'hectic' [LTvii428], she is able to reappraise the learners' behaviour in light of this information. The focus is shifted to the present tense, as the learners' behaviour is seen to be transitory, and may be expected to be different the following day.

In contrast, Julia, who happens to be present at the time, does not find out the reason for the learners' misbehaviour after she offers to talk to Eadith and her friend outside the classroom whilst Lydia continues to teach. Instead Julia gives Eadith and her friend 'a talk about what's the problem', and tells them to 'sort themselves out' [LTvii488]. As a result, Julia formulates her appraisal of the learners' behaviour on the information she has of them in the context of the classroom. The focus is shifted to behaviour that is deemed appropriate in the context of the science classroom, and the learners are instructed to behave accordingly. The gaze is directed towards the macro, or behaviour that is considered to be 'ideal' in the science classroom.

[LTvii480-491]

vii	480	Julia: [Said after Lydia instructs the learners to pack up.]. Alright, well, in that case I might go.
vii	481	Lydia: Thank you so much. I'll come and talk to you after [the class].
vii	482	Julia: [unclear].
vii	483	Lydia: Oh, you did a lot. Thank you. What was the problem with [name] [Eadith's friend] today?
vii	484	Julia: Oh, I didn't really ask her what the problem was, I never quite thought of it.
vii	485	Lydia: That's alright, thanks for dealing with the problems after maths class. [Name] said it was very hectic.
vii	486	Julia: Oh really. I think, I think they did calm down now, I think.
vii	487	Lydia: They've done very well for the last little bit. I'm quite happy.
vii	488	Julia: I gave her a talk about what's the problem, I told them to sort themselves out here.
vii	489	Lydia: Oh goody, thank you dear. Thank you.
vii	490	Julia: Okay, I'll see you down there [in the teachers' workroom].
vii	491	Lydia: Okay bye.



In 4.4.2 I looked at the implications of Lydia's favouring of an 'axiological' emotional principle for subjectivity by bringing control to the fore. For control with regards to Lydia, I examined the implications concerning the building of the pedagogic communication for rapport. Lydia favours high-low ability ascriptions in the building of the pedagogic communication. For example: She has a high-low 'action-outcome' expectancy concerning rapport for A (e.g. each of the learners in the class) and rapport for B (e.g. members of the local community). For her relationship with her learners, she focuses on the particular by remarking on the manner in which one learner will pass a positive comment as she enters the classroom if she's had a good day. Lydia also has a high-low 'action-outcome' expectancy concerning rapport for A (e.g. the science department) and rapport for B (e.g. the technology department). For her relationship with her colleagues in the science department, she comments on the manner in which the staff members 'share' and 'look after' each other. Lydia's high-low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in an expansive manner. She sews with Eadith during interval until she is 'back in her own little kilter' and relays a genealogy of change for learners who have similarly 'kicked the traces'. She also foregrounds the communital through her extension of the pedagogic right of participation to members of the local community.

For control with regards to the learners, I examined the implications for the language of description relayed through the process of transmission and acquisition: Firstly, Lydia places emphasis on the individual in formulating an appraisal of a learner's behaviour by directing her attention towards the learner's efforts both internal and external to the classroom. Secondly, she brings implicit criteria to the fore through her description of the learners as 'tangential', and in depicting her relationship with the learners to be one of trust to varying degrees in which the element of trust can be 'eroded'. Lastly, she processes emotional information at a specific level in formulating an appraisal of Eadith and another learner's behaviour. In doing so, she draws upon the 'isolated lexeme' 'quite' to express feeling 'quite happy' with their behaviour pointing to a practice of graded feelings.

### 4.4.3 Summary

In sum, Lydia favours high-low value and ability ascriptions with regards to rapport. The processing of emotional information at a specific level realizes ‘relations between’ and ‘within’ marked by weak classification and framing. For value, she ascribes importance to relationships external to the classroom, and constructs a problem on graphing, with the assistance of the learners, that refers to her two daughters. For control, she formulates high-low ability ascriptions with regards to developing a relationship with Eadith, and does sewing and science with Eadith during interval. Her high-low value and ability ascriptions build a pedagogic subject that feeds back on the meaning potential in an expansive manner. I illustrate the building of a ‘non-linear’ model of emotion for Lydia, for the category of rapport, as shown in the figure below.

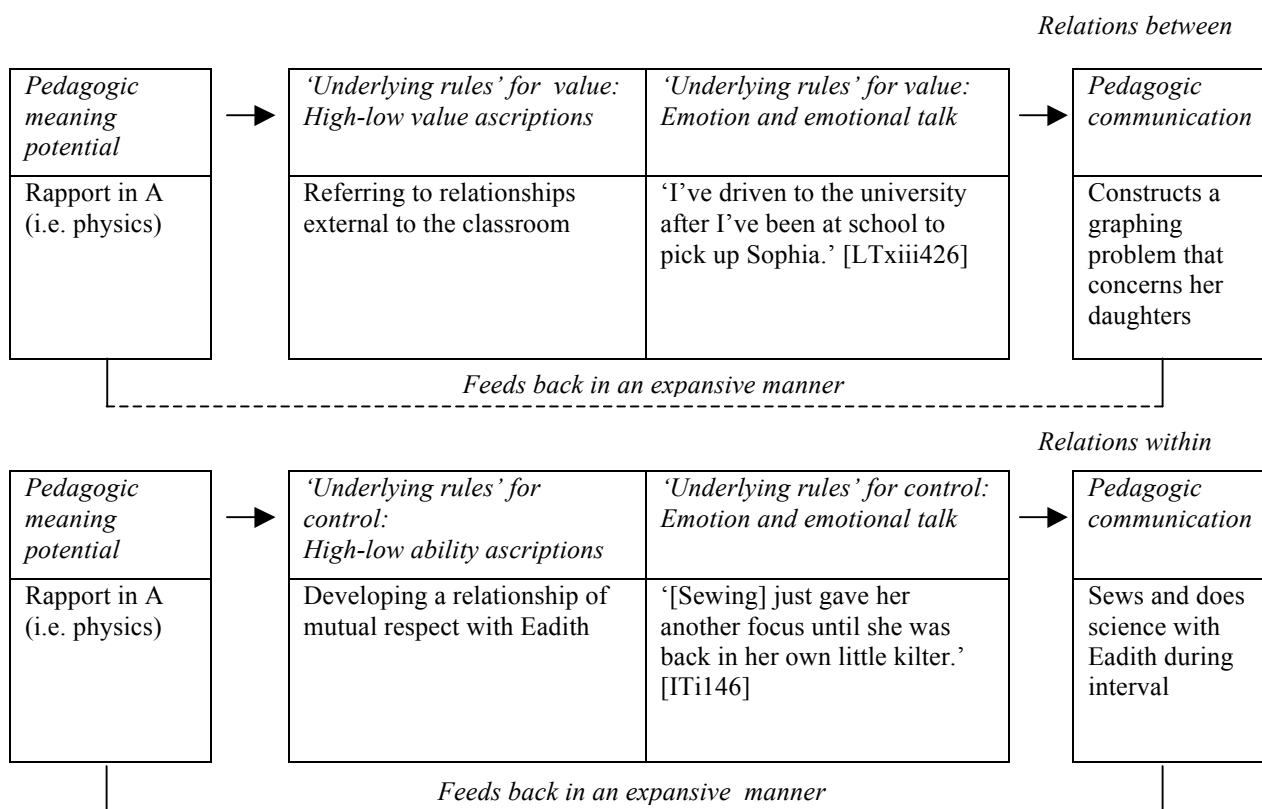


Figure 4.4.3-I The building of a ‘non-linear’ model of emotion for rapport

## 4.5 An Emotional Investment in Performance for Julia

### Introduction

[ATc day 1]

c	6	T: Okay, I'm going to hand out your [test] papers. Just to be fair to everybody you can't start this one until everyone has got it so you've got the same amount of time...
c	7	S: Can we write our name on it?
c	8	T: Yes, you can write your name on it but don't open the page please...Don't talk now please. You're in test conditions...You absolutely know the drill. When we're in test conditions, we're in test conditions.

In the interaction above, Julia determines the time and spatial arrangements by which the learners will act for a test. She instructs the learners to keep quiet, and tells them further not to open their assessment booklets until all the learners have received one. In 4.5 I examine the principles that appear to guide Julia's dialogic behaviour with regards to performance. I do so to uncover more fully why, for example, she announces on several occasions that test conditions apply in the excerpt above. I begin by looking at the interactions between the level of evaluation and relations, and then consider the interactions between the level of evaluation and subjectivity.

### 4.5.1 Evaluation and Relations

In 4.5.1 I look at the implications of Julia's favouring of an 'ideological' emotional principle for *pedagogic relations* by foregrounding value. Firstly, I consider the implications of her value ascriptions for relations between the pedagogic context, and context external to it, or 'external' relations. Secondly, I examine the implications in terms of relations for which one of the categories pertains to the learners' feelings.

## 1. External Relations

For ‘external’ relations, e.g. performance in A (namely, physics) and B, I unpack Julia’s high or low value ascriptions for performance in A. In other words, I examine her selection *or* non-selection of meanings for performance in A. I focus on her high or low value ascriptions to maintain the integrity of the ‘object’ by recognizing the ‘inner’ and ‘outer’ component of a ‘linear’ model of emotion. Her high or low value ascriptions for performance realize relations marked by strong classification and framing. In addition, they appear to reveal a dislocation between her private feelings, and the public feelings she displays, through a “shutting down” (John & Gross, 2004, p. 1314) of feelings.

In leading up to looking at relations for performance, I indicate that the evidence for Julia’s inattentiveness towards her feelings is supported by her low degree of emotional awareness. Julia conveys difficulty in recording her feelings in her diary, and requests additional assistance in the completion thereof<sup>42</sup>. For one diary entry she writes ‘Feels like a mix of all of the above [emotions] but I don’t feel in touch with them enough to be sure’ [EDEb]. She also expresses difficulty in answering the interview questions, and relays, at the end of the second interview, having told Lydia ‘Man, you know, I’ve really struggled answering some of those questions that Wesley has been asking’ [ITb189].

The evidence for her inattentiveness towards her feelings is also supported by her low value ascriptions concerning feelings. Julia places emphasis on ‘busyness’, and frames only the start of class as the ‘emotional side’ of teaching: She states ‘And so that’s kind of about the emotional side’ in reference to the manner in which upon entering the classroom she may take a deep breath, and ‘take a minute to see the kids’ [ITa262-264]. She also places emphasis on putting in effort without regard for her feelings on events: She states that she puts her feelings ‘aside’, takes a deep breath, and prioritizes ‘getting through the day’ if matters go awry [ITa232].

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<sup>42</sup> [FN2008.08.11] [FN2008.08.20]

### *Performance in A and performance in B*

**High value ascriptions.** Julia's high value ascriptions concerning performance in A realize 'external' relations marked by strong classification and framing. Performance receives prominence in her class as the lesson starts regularly with a 'pop quiz' on the work done the previous day. In relation to one 'pop quiz' written by Lydia's class, nine 'pop quizzes' are written for eighteen of her lessons for which no other assessment task is completed<sup>43</sup>. A high degree of emotional investment is demonstrated through her emotion and emotional talk. On telling the learners to turn to the back of their books for a 'pop quiz', she exclaims 'Yah, we love pop quiz. Yah, yah. Heh, haa. Yippee' [LTb1]. 'We' is a term noted to be used by teachers to emphasize solidarity with their learners (Christie, 2001). Julia encourages solidarity through her use of 'we' with those invested in performance.

Value is ascribed to performance through her reference to results during class. For example: Julia indicates that a four-day practical assessment task is repeated in Year 11 for credits towards the National Certificate of Educational Achievement (NCEA). She draws upon the resource of 'intensification' to upscale her investment in the assessment task, stating 'It's really important', and tells the learners further 'It's really, really important that you pay attention' [LTh322]. She also outlines the correct procedure to follow for distance speed time calculations in order to get 'Achieved'. She draws upon the 'maximiser' 'totally' to upscale the importance given to the procedure to be followed saying 'It is so totally, totally, totally, totally, totally important that you do it this way that...you'll struggle to get Achieved if you don't do this' [LTk105].

Julia positively appraises the learners' performance for the unit test. On marking the learners' tests, she and Lydia express their enthusiasm to each other in the workroom for their learners' performance. Upscaling of the importance ascribed to performance is realized through the resource of 'quantification' as she comments to Lydia 'That's what it's all about' [FNv]. In her diary Julia expresses her delight on marking the learners'

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<sup>43</sup> [LTb1] [LTc35] [LTd16] [LTf5] [LTh4] [LTi1] [LTk1] [LTm15] [LTr2]

scripts. Feelings of happiness, affection, satisfaction and pride are checked. She records how her feelings of excitement intensified as the scripts were marked, writing ‘I could see how well each girl was going, and was excited to see how good her mark would be’ [EDEv]. In the classroom she expresses her enthusiasm upon giving the learners their grades, saying ‘Girls, I don't even know how to say this to you...I marked your tests last night...And they were fantastic...They were absolutely fantastic...And I’m so pleased’ [LTv4-16].

***Low value ascriptions.*** Julia’s low value ascriptions concerning performance in A realize ‘external’ relations marked by strong classification and framing, and reveal inconsistencies in her emotion and emotional talk with regards to the value of performance in physics. Julia negatively appraises Verda Girls’ High as assessment driven [FNe], and states ‘There has to be a reason for doing it [teaching and/or learning] other than passing the test’ [ITb49]. Ascribing worth instead to teaching the learners about what is relevant to ‘their life and their world’ she evaluates assessment as ‘the worst part of being a teacher’. She says ‘That’s a part that I don’t like very much of being a teacher’ [ITb143-145].

Julia’s use of the emotion regulation strategy of suppression appears to be evident from her response, as she relays the role of interest/ pleasure/ boredom/ displeasure in her practice, in the excerpt provided below. In presenting herself as one who is to ‘sell the subject’ to her learners, her negative appraisal of performance comes forth unexpectedly. In addition, as the suppression of emotions reduces cognitive resources, her request for the question to be repeated suggests her use of this particular strategy:

I feel as though everyday it’s part of teaching to sort of sell the subject to the students, and make it interesting, and sort of tell them that it’s relevant to their life. Or, you know, there has to be a reason for wanting, [speaks the remaining part quickly] there has to be a reason for doing it other than passing the test. Um, and I’ve completely forgotten the question. Can you ask me again? [ITb49]

In the classroom, Julia ascribes little worth to performance as the learners are given the option of working towards ‘Achieved’ for the unit test, rather than ‘Merit’/ ‘Excellence’.

For a problem on resistance, she indicates that the units on voltage and current need not be discussed in order to obtain ‘Achieved’, remarking ‘You can decide how much of [the explanation] you want to be bothered with’ [LTq210]. For a problem on electrical circuits, she asks a learner if she wants the ‘hard answer’, or ‘just the enough to pass answer’, when the learner asks her for assistance [LTq240-244].

Julia’s negative appraisal of performance is evident for a four-day practical assessment task where learners are required to determine the time taken for a parachute to fall a fixed distance. She describes her feelings towards the task as a ‘magnified version’ of what was felt for ‘quite a lot of the unit’ [ITb143]. Appraising the activity negatively, she says ‘I feel no enthusiasm for it or creative ways to teach it’ [EDEt]. These feelings have come to ‘stick’ to the task, translating into a genealogy characterized by stability. Commenting on the history of these feelings, she says ‘We teach it so much, and every year it’s like, ah this again, which obviously I didn’t feel the first time I taught it’ [ITb71].

In addition to the negative appraisal of the task, the assessment task is neither positively nor negatively valued as Julia records feelings of boredom (Pekrun, Frenzel, Goetz, & Perry, 2007, p. 21). She writes in her diary ‘It is just another hoop to jump through’, and ‘I just felt that I couldn’t be bothered teaching this same old assessment again [her emphasis]’. In relaying difficulty in the regulation of her feelings, she describes ‘dreading’ teaching the task beforehand, and finding it difficult to ‘snap out of the mood’ upon entering the classroom [EDEt].

Julia and the learners reciprocate each others negative appraisal of the activity as the lesson unfolds. Sarcasm is brought to the fore as she describes the manner in which the plastic bag, used for the construction of the parachute, opens up, as ‘the incredible complexities of the plastic bag’ [LTt112]. Her negative evaluation of the task contracts the dialogic space to those who would appraise it otherwise. This is evident as one learner appraises the parachute positively saying, ‘It looks quite cool’, following which she concedes ‘They are actually pretty cool’ [LTt68-69].

Julia's use of the emotion regulation strategy 'situation selection' is evident for the assessment task when she asks for a volunteer to construct the parachute, and perform the steps to be followed for the method of the investigation. In doing so, the volunteer's positive feelings get to colour the classroom environment, whilst her feelings are less visible. Whilst the volunteer constructs the parachute and does the demonstration, she sits on her desk at the periphery of the classroom, and explains the procedure to the learners:

[LTt112-115]

112	<i>t</i>	T: Now, who wants to be my fabulous volunteer, my amazing, beautiful assistant today, and make the parachute for us? Oh, the enthusiasm. You know you want to.
113	<i>t</i>	Jackie: [Raises her hand.]. I will.
114	<i>t</i>	T: Good on you, Jackie. Good girl.
115	<i>t</i>	Jackie: [Sways her ponytail, and looks side to side at the other students.]...
256	<i>t</i>	Jackie: Can I drop it [unclear] [for everyone]?
257	<i>t</i>	T: Yeah, you can drop it.
258	<i>t</i>	Jackie: [Prepares to drop it.]. Hah, hah. [Drops it.]. Aaaahhhh. [Claps.]. That's so amazing.

Julia appraises the expression of her negative feelings concerning the assessment task as 'inappropriate' [ITb43].

I think it would be really nice if I was able to leave those feelings outside of the classroom, and not have them actually come in, and sort of affect my teaching, and affect the way I portray the subject to the girls. [ITb29]

In addition to trying to 'leave those feelings outside of the classroom', she also says that she may try to 'jolly' herself along and 'think something positive to not be bored' [ITb43]. To 'think something positive' appears to place an emphasis on reappraisal (focus: macro level). Julia conveys difficulty in regulating her emotions accordingly, saying 'I do think sometimes that that's hard to do', and 'So it's hard to sort of snap out of that sometimes' [ITb43-45].



## 2. External Relations: Responding to the Learners' Feelings

For Julia's responsiveness to the learners' feelings, I examine her low value ascriptions with regards to the learners' feelings concerning performance in B (French). Her absence of focal attention towards the learners' feelings results in an absence of synthesis for different kinds of representation, namely: performance in A (physics) and B (French). It is noteworthy that the evidence for an absence of attention towards day-to-day feelings is supported by her expression of a lack of engagement in voluntary regulatory activity concerning her learners' feelings. In response to being asked what she might teach her learners about their emotions she demonstrates surprise, saying 'Oh, God...About the emotions? Crickey' [ITa178-180]. In addition, she conveys not having been 'consciously aware of' [ITb99] teaching the learners about their feelings [ITb99].

***Performance in A and performance in B.*** When the learners mark their graphs using a marking schedule Julia struggles to set up her laptop to project the marking schedule on the screen for the learners. She apologises to the learners saying 'I'm really sorry, it's just taking me a minute to get it all going' [LTj15]. The learners use the opportunity to express their concern over an upcoming French test after she comments that the learners are rather quiet. Once the laptop is set up, the class resumes.

[LTj15-24]

<i>j</i>	15	T: You guys are lovely and quiet today.
<i>j</i>	16	S: We're tired.
<i>j</i>	17	T: Ah, that's no good. Alright, I'm nearly there, sorry, I'm messing around.
<i>j</i>	18	S: I'm stressing about this test.
<i>j</i>	19	T: Ah, what test have you got coming up?
<i>j</i>	20	S: French.
<i>j</i>	21	S: Ah, I don't know anything.
<i>j</i>	22	T: What subject is it?
<i>j</i>	23	S: French.
<i>j</i>	24	T: Ah, okay girls, I'm organized.

Classification and framing for the evaluation of the graphs remains strong. Only the first few minutes of class are devoted to the learners' feelings, thereafter the graphs are marked (selection of communication) from the previous lesson (sequencing). Time is

invested into the evaluation of their graphs, and is clearly punctuated as the learners are given time limits to complete a task (pacing). Importance is given to learning how to evaluate one's graph using a marking schedule (evaluation criteria) (*Figure 4.5.1-I*).

<b>+C</b>	<b>Classification</b>	Performance in A and Performance in B.
<b>+F</b>	<b>Communication</b>	The evaluation of the learners' graphs.
	<b>Pacing</b>	'One or so more minutes' 'Thirty more seconds' 'You have one minute to go down and do a buddy mark'.
	<b>Sequencing</b>	'We are going to use this [marking schedule] to mark the graph that you drew from your data on Friday'.
	<b>Criteria</b>	'I want you to be able to use this lots and lots of times'. [LTj24-112]

KEY +C Strong Classification +F Strong Framing

*Figure 4.5.1-I* Strong classification and framing for an assessment task on graphing

In 4.5.1 I examined the implications of Julia's favouring of an 'ideological' emotional principle for pedagogic relations by bringing value to the fore. For 'external' relations, e.g. performance in A and B, her high or low value ascriptions realize relations marked by strong classification and framing. What high value ascriptions does she formulate? Julia positively appraises assessment and upscales her evaluation through the resource of 'quantification' by articulating that assessment is what teaching is 'all' about. She ascribes a high degree of value to grades when she deploys her attention towards the learners' final grades during the marking of their unit tests. She positively appraises assessment tasks, such as 'pop quizzes', and upscales her evaluation through the selection of a 'pop quiz' every second other lesson. And what low value ascriptions does she formulate? Julia negatively appraises assessment as the 'worst part of being a teacher' and states that there has to be a reason for teaching other than passing the test. She ascribes a low degree of value to grades when she gives the learners the option of working towards 'Achieved' rather than 'Merit'/'Excellence'. She negatively appraises the four-day practical assessment task and describes her feelings as a 'magnified version' of what she felt for 'quite a lot of the unit'. At an individual level, her high or low value ascriptions realize an emotional practice of strong feelings. In addition, they appear to reveal a dislocation between inner experience and outer expression involving a 'shutting

down' of feelings. (Her inattentiveness towards her feelings is supported by her low degree of emotional awareness.). Julia's high value ascriptions build an 'ideal' pedagogic subject with regards to value that ascribes a high degree of worth to performance in A. At a social level, her high or low value ascriptions insert a dislocation between the individual (the 'inner') and social (the 'outer'). For example: Her negative appraisal of the parachute through sarcasm, during the practical assessment task, contracts the dialogic space to a learner who remarks that the parachutes are 'quite cool'. The evidence for her favouring of high or low value ascriptions is supported by those emotion regulation strategies she employs if feelings of 'boredom' are elicited by an assessment task. For example: Her expression that she tries to 'think something positive', and 'snap out' of feelings of boredom, points to the general processing of emotional information, and a sharp transition in the reappraisal of an activity as 'positive', *not* 'negative'. For Julia's responsiveness to the learners' feelings, her high or low value ascriptions realize relations marked by strong classification and framing. She ascribes a low degree of worth to the learners' feelings concerning performance in B (e.g. French), and a high degree of value to the evaluation of the learners' graphs. A failure in the running of the laptop is required to bring about a weakening in the classification and the direction of attention towards the learners' feelings.

#### **4.5.2 Evaluation and Subjectivity**

In 4.5.2 I examine the implications of Julia's favouring of an 'ideological' emotional principle for *subjectivity* by foregrounding control. I consider the implications of her high or low ability ascriptions for her own enhancement, inclusion and participation for performance. In addition, I look at the implications of her ability ascriptions for the following three aspects of the language of description: the orientation (comparative/ individualistic), the level (general/ specific) and the criteria (explicit/ implicit).

## 1. The Pedagogic Communication: Julia

***Intrapersonal level.*** Julia's high or low ability ascriptions realize opportunities or constraints for 'enhancement' in the building of subjectivity. Julia appraises herself as 'powerless' [ITb145] to equip some of the learners to achieve due to a low 'action-outcome expectancy'. She communicates that she cannot afford to teach the learners something that they do not need to know for the test [FNe]. As the boundary that delineates a high from a low achiever may be difficult to determine, it appears the objectivity of the test may be used by her as a basis to substantiate an appraisal that is made. For the lesson during which the learners' grades are given back, she constructs the learners as competent, placing emphasis on working towards 'Excellence'. They are told:

I've got to talk to you about how to write your conclusion and what you need to do for your science ideas, so that you can get Excellence AGAIN [She places stress on 'again']. Because some of you are doing so well. [LTv76]

Post the unit test, Julia appraises herself as competent in terms of having equipped the learners to perform in the test. Her appraisal of her ability is formulated by foregrounding the learners' performance as a 'whole' [LTv16] [ITd40]. As she appears to use the test as a basis to substantiate her appraisal of the learners' ability, so too does she appear to do the same for her own ability. She appraises herself as 'successful' post the unit test, saying 'They have learnt something, and their results back that up' [ITb133], and communicates further the manner in which her appraisal of her ability was affirmed during the marking of the learners' scripts:

I was absolutely thrilled when I marked their papers. And I guess, I felt good about myself, because I thought that I had done, I obviously had done an okay job teaching them, because they're showing understanding. [ITd38]

Julia expresses a desire for less importance to be ascribed to performance at Verda Girls' High. She conveys feelings of powerlessness to bring about these changes and upscales these feelings through 'intensification' by 'repetition'. (She repeats the word 'powerless' five times, as indicated in the excerpt below.). Feelings of powerlessness are also invoked

through her use of the lexical metaphor ‘I feel as though I have to jump through so many hoops just doing assessment tasks’. Expressing feelings of guilt that she does not institute change, she says in a somewhat quieter, and disillusioned voice, ‘but I don’t know what to do’ [ITb145].

I think sometimes I feel quite powerless. And often as a teacher, you know, I just feel quite powerless to make changes. And that comes up quite a lot. I feel powerless to help some students. I feel powerless to make quite a lot of changes that I, you know, I see could be made. I feel powerless to just, I don’t know, I feel as though I have to jump through so many hoops just doing assessment tasks, and things like that. [ITb145]

***Interpersonal level.*** Julia’s high or low ‘action-outcome’ expectancies realize opportunities or constraints for ‘inclusion’. Julia perceives Verda Girls’ High as having a high degree of emotional investment in performance [FNe]. In other words, she considers that the degree to which the dialogic space at Verda Girls’ High is expanded to alternative positions and voices is low. She comments that she feels as if she is working in a ‘soup kitchen’ at times, suggestive of the manner in which she may feel that she needs to spoon feed her learners so that they achieve in the test [FNe].

Julia appraises the environment as having become progressively more invested in performance since she first began teaching at the school [FNe]. In conforming to an emotional investment in performance, she may regulate her emotions through suppression. This appears to be evident from the excerpt provided below in which she initially conveys feelings of pleasure upon her learners’ successful completion of a worksheet on unit conversions. The ‘part’ of her that appraises equipping the learners to perform through rote-learning as ‘pointless’ comes forth unexpectedly:

In moments like that I think that, I’m, you know, I’m really pleased to be a teacher, and I feel as though I’m. Oh God, I don’t know, part of me thinks it’s so pointless, that I’m training them like monkeys to do something that they don’t really understand the significance of what they’re doing. [ITd112]

**Political level.** Julia's high or low degree of personal control realizes opportunities or constraints for participation and brings 'power' to the fore. Her appraisal of her 'powerlessness' to equip her learners to perform, due to a low 'action-outcome expectancy', is revealed when Julia and her learners do not attend to the problem when she (1) Directs her learners' attention away from an internal attribution of ability during a 'pop quiz' [LTb13]<sup>44</sup>; (2) Provides her learners with unsolicited help during a 'pop quiz' [LTb13-18]<sup>45</sup>; and (3) Simplifies a task to do with performance [LTb18-21]<sup>46</sup>. Her actions teach her learners to regulate their emotions through emotion-focused coping.

Julia's appraisal of her low degree of control to institute change, concerning performance at the school, is revealed when she does not invest resources into that which is of importance to her, resulting in an environment characterized by stability. As a result, emotion-focused coping, rather than problem-focused coping, tends to predominate. "Avoidance behaviour" (Boekaerts, 2007, p. 40) is suggested when she directs her learners' attention away from the upcoming assessment task, turning their attention instead to the lesson that is to take place that day. She does so when a learner remarks 'But then that's just lying' after she denies a test is to take place, due to the negative response elicited upon the announcement of the assessment task:

[LTt1-10]

<i>t</i>	1	T: Right my lovelies.
<i>t</i>	2	S1: Do we have another test?
<i>t</i>	3	T: Well kind of.
<i>t</i>	4	Ss: Aaahhh.
<i>t</i>	5	S: Hhaahh.
<i>t</i>	6	T: That was the wrong answer, wasn't it?
<i>t</i>	7	S1: Yeah, you think?
<i>t</i>	8	T: He, he, he. I mean no, no you don't have another test.
<i>t</i>	9	S1: But then that's just lying.
<i>t</i>	10	T: No, no. Cause I'm not really lying, cause it's not today, but you do have another one coming up.

<sup>44</sup> For example: [LTd45] [LTd73] [LTh6] [LTi5] [LTi11]

<sup>45</sup> [LTh8-10] [LTr2]

<sup>46</sup> [LTc41-43] [LTc43-45] [LTk20] [LTm37-42] [LTr2]

Julia's low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in a contractive manner. For example, the pedagogic communication is contracted to interpersonal and ideational meanings concerning that which is of importance to her. It is also contracted to interpersonal and ideational meanings concerning performance for A (i.e. the lower band learners). An 'ideal' or 'non-ideal' pedagogic subject is constructed with regards to control that involves a high or low degree of controllability concerning performance.

## 2. The Pedagogic Communication: The Learners

Having considered the pedagogic communication for Julia, I look at the pedagogic communication for Julia's learners. I begin by considering the 'underlying rules' for the pedagogic communication, that are relayed in the process of transmission and acquisition, with regards to the orientation. I then look at the 'underlying rules' with respect to the criteria and level. In order to do so, I draw upon several incidents to do with achievement, such as the presentation of the learners with their grades for the unit test.

### 2.1 The 'Underlying Rules' for the Pedagogic Communication

*The orientation.* Julia's favouring of an 'ideological' emotional principle foregrounds a language of description concerning social comparison. The value of winning tends to be exaggerated in a classroom that operates accordingly evoking self-congratulations by able learners, and ego-defensive coping or low ability ascriptions by unable learners (Ames, 1984). Julia tends to ask her learners to stand up or raise their hands if they answer all or most of the questions correctly in a 'pop quiz', or test<sup>47</sup>. On asking the learners to stand up following a 'pop quiz', Jackie does the twist on obtaining full marks [LTh23]. A

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<sup>47</sup> [LTc144-148] [LTd93] [LTi13] [LTi49] [LTk26] [LTk36-40] [LTr51] [ATa day 2, time:29.24]

learner left seated whilst most of the class stands, exclaims ‘Ah man, that sucks’ [LTh25]<sup>48</sup>.

[LTh22-27]

<i>h</i>	22	T: Stand up if you got five out of five. Good girls, that's fantastic.
<i>h</i>	23	Jackie: [Jackie stands up and does the twist.].
<i>h</i>	24	T: Stay standing, and stand up if you got four out of five. Stay standing, and stand up if you got four out of five.
<i>h</i>	25	S: Ah man, that sucks.
<i>h</i>	26	Ss: [Some of the students smile, and slightly laugh as the student passes this comment.].
<i>h</i>	27	T: Okay girls, thank you. Sit down. Thanks very much.

In a classroom that operates according to a social comparative orientation a learner's rewards are inversely related to those of another (Dweck, 1985). The positive emotion and emotional talk in Julia's classroom is directed towards those who are appraised competent. She tells the learners ‘I'm so proud of you, especially my hundred percent girls’ [ATa day 2, time:29.24] for a test written on the terms for the unit. She rewards those who attain high grades with ‘lollies’ and ‘chokies’. On reminding the learners that the literacy post test is ‘worth lollies and chocolate’ [LTp70], she says ‘Now a few people got a chokie bar last time, let's see if we can get a few more people with a chokie bar this time. A hundred percent, go for it’ [LTm23-29].

**The criteria.** The underpinning of her emotional practice by an ‘ideological’ emotional principle brings explicit criteria to the fore. Her appraisal of the learners’ performance for the unit test is clear and definitive. On presenting the learners with their grades for the unit test, she asks the learners to line up. She presents the learners’ grades to them one-by-one in writing, framing each learners’ grade by covering up the other learners’ grades [LTv28]. On giving a learner who is absent her grade the following day, she points to her grade of ‘Achieved’, saying ‘That one there, that red one’. The grade is presented to the learner clearly and authoritatively in red [ATc19 day 1, time: 25.57].

<sup>48</sup> Examples of a learner's high ability ascriptions, low ability ascriptions and ego-defensive coping are provided as they do appear to be significant given Julia's construction of the learners as high or low ability learners. It is acknowledged though that a learner may or may not be aligned into Julia's construction of them. A learner's appraisal of her control, or engagement in ego-defensive coping, may be due to causes other than Julia's construction of them.



The formulation of high or low ability ascriptions for the learners is revealed in terms of space. Vertical polarization is realized as learners either stand up, or raise their hands if they attain a high mark. By standing up, or raising their hands, the actions of the learners who are appraised as successful translate into the action tendency for pride, namely “expansiveness” (Lazarus, 1991, p. 272). In comparison, the actions of those learners who remain seated translate into the action tendency for shame, namely “to hide” (Lazarus, 1991, p. 244). The movements of those learners deemed successful are less restricted within the space of the classroom. As their bodies are elevated, those deemed less able are made to look up to them.

***The level.*** Julia’s favouring of an ‘ideological’ emotional principle foregrounds a language of description to do with the general processing of emotional information. When the learners use a marking schedule that requires them to evaluate their graphs positively and negatively, she expresses her preference for the overall mark that a learner writes at the bottom of her marking schedule [LTj112]. Another learner is asked to count up the ticks that she has gotten and to record her mark [LTj112]. When Julia gives the learners their marks for the unit test the learners are told that the grades are ‘absolutely fantastic’ [LTv10]. She does not take into consideration the two learners who got ‘Not Achieved’ in formulating her appraisal. When Jackie asks if anyone got ‘Not Achieved’, she responds ‘Uh, yes. Two people did get Not Achieved. Yeah, so the whole class hasn’t passed’ [LTv12-13]. The learners are then told ‘But on the whole the grades were just so fantastic, and I’m so pleased’ [LTv16].

In 4.5.2 I looked at the implications of Julia’s favouring of an ‘ideological’ emotional principle for subjectivity by bringing control to the fore. For control with regards to Julia, I examined the implications with regards to the building of the pedagogic communication for performance. Julia favours high or low ability ascriptions in the building of the pedagogic communication. For example: She appraises herself as ‘powerless’ to equip learners to perform, and articulates that she cannot afford to teach work in addition to that which is required for the test. She also appraises herself as ‘powerless’ to implement

change in terms of the perceived performance orientation at the school. She upscales her feelings of ‘powerlessness’ through intensification by repetition, repeating the word ‘powerless’ five times. In addition, feelings of ‘powerlessness’ are invoked through her use of the lexical metaphor ‘I feel as though I have to jump through so many hoops just doing assessment tasks’. Her high or low ability ascriptions realize a pedagogic communication that acts on the ‘meaning potential’ in a contractive manner. Julia and her learners do not attend to performance when she directs her learners’ attention away from an internal attribution of ability during an assessment task. In addition, she does not bring about change, concerning the performance orientation of the school, when she engages in ‘avoidance behaviour’ instead of employing strategies targeted at altering the stressor.

For control with regards to the learners, I examined the implications for the language of description relayed through the process of transmission and acquisition. Firstly, Julia brings social comparison to the fore when she requests those who excel in a test to stand, and directs her positive emotion and emotional talk towards these learners. Secondly, she places emphasis on explicit criteria by getting the learners to line up to receive their grades, and giving their grades to them one-by-one in writing. Lastly, she processes emotional information at a general level when she presents the learners with their grades for the unit test. It would seem those who attain ‘Not Achieved’ go unacknowledged when she announces to the learners that ‘on the whole’ the grades were ‘fantastic’.

### **4.5.3 Summary**

In sum, Julia favours high or low value and ability ascriptions with regards to performance. The processing of emotional information at a general level realizes ‘relations between’ and ‘within’ marked by strong classification and framing. For value, she ascribes a low degree of value to grades when she gives the learners the option of working towards ‘Achieved’. For control, she communicates feeling ‘powerless’ to equip lower band learners to perform, and directs the learners’ attention away from an internal attribution of ability. Julia’s high or low value and ability ascriptions build a pedagogic subject that feeds back on the meaning potential in a contractive manner. I illustrate the

building of a ‘linear’ model of emotion for Julia, for the category performance, as shown in the figure below.

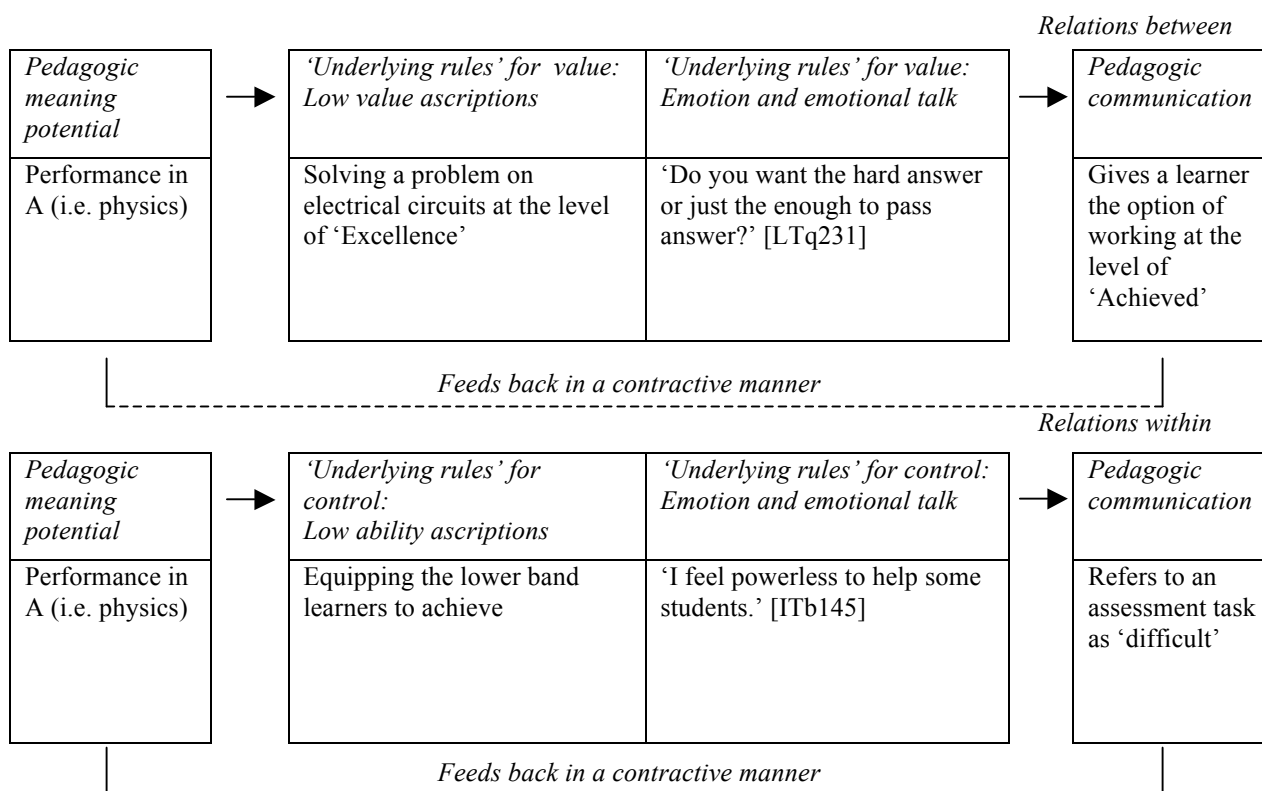


Figure 4.5.3-I The building of a ‘linear’ model of emotion for performance

## 4.6 An Emotional Investment in Performance for Lydia

### Introduction

*For some of them who are very anxious if you go round and you're not allowed to, you're not meant to, but...I'm not telling them anything. So a kid who's really nervous who's actually got something right on their paper, I might tick it, or I might give a thumbs up because then they feel better automatically...Exams are lonely, yeah, I hated them. So I wished someone smiled at me. And that's what I say to them. Look at the paper, look at the supervisor smile, or look at the ceiling. Don't look anywhere else. [ITiv100]*

In the excerpt above, Lydia describes her behaviour when she supervises an assessment task. In response to a learner's feelings of anxiety, she might tick an answer, give a thumbs up, or smile at a learner to make the learner feel better. In 4.6 I examine the principles that appear to guide her dialogic behaviour with regards to performance. I do so to uncover more fully why, for example, she directs the learners' attention not only towards the test paper but towards the smile of the exam supervisor. I begin by looking at the interactions between the level of evaluation and relations, and then consider the interactions between the level of evaluation and subjectivity.

### 4.6.1 Evaluation and Relations

In 4.6.1 I look at the implications of Lydia's favouring of an 'axiological' emotional principle for *pedagogic relations* by foregrounding value. Firstly, I consider the implications of her high-low value ascriptions for relations between the pedagogic context, and context external to it, or 'external' relations. Secondly, I examine the implications in terms of relations for which one of the categories pertains to the learners' feelings.

#### 1. External Relations

For 'external' relations, I unpack Lydia's high-low value ascriptions, i.e. selection *and* non-selection of interpersonal and ideational meanings, for performance. Lydia's high-low value ascriptions bring about relations marked by weak classification and framing realizing the synthesis of different kinds of representation, namely performance in A (i.e. physics) and B (e.g. food and fabric design). I therefore direct my attention beyond 'clear-cut closed systems' in the examination of relations for Lydia to maintain the integrity of an 'object' that aims to respond to things, events and people.

Prior to examining relations between performance in A and B, I indicate that the synthesis of different kinds of representation is supported by Lydia's emotional

awareness, in line with the definition of emotional awareness provided by Lambie and Marcel (2002) that outlines emotional awareness to be underlain by focal attention: Lydia does not articulate difficulty in the completion of the emotion diary, nor request additional assistance in the completion thereof. She also does not communicate difficulty in answering the questions asked during the interviews.

### ***Performance in A and performance in B***

Lydia's high-low value ascriptions concerning performance in A realize 'external' relations marked by weak classification and framing. In addition to the learners' performance in physics, the learners' performance in subjects other than physics is valued too. The learners' performance in maths and French is given prominence during the study in the science classroom [LTvi233-236]<sup>49</sup>. In terms of the learners' performance in science and technology, she says 'I want to show them that they can achieve, and [for] other subjects I teach as well' [ITi80].

Lydia expresses feelings of pride on her learners' completion of their garments in fabric design [ITiv92], and directs the gaze of the science teachers in the workroom towards the learners' attainment in a subject other than science. For Father's Day she brings an apron into the workroom made by a learner for her father when he barbeques [FNxiv]. As feelings of pride 'stick' to the learner's script for physics, so they 'stick' to the apron. Through her actions those present get to feel proud not only for the performance of their learners in science, but in technology as well:

They know these kids, and they know them in a context of an academic subject where they may be failing or they're lazy. And I want to show them that these kids aren't just that. I want to show them there's other things about this kid they don't know. [ITiv92]

Weak classification and framing mark the conversation between Lydia and the teachers in the workroom. She brings the learners' aprons into the workroom (selection of

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<sup>49</sup> [LTiii487-493] [LTiv44-54] [LTii165-170]

communication), taking time between classes to show the other teachers the learners' work (pacing). As the teachers move back-and-forth in conversation about the learners' achievements in science and technology (sequencing), feelings of pride are conveyed for both their performance in science and technology (evaluation criteria). In doing so, the recognition and realization rule in the production of the text are oriented towards change.

The worth Lydia ascribes to the learners' performance in physics is evident from her feelings of pride in the learners' achievements during the study. In particular, these feelings are elicited upon marking the learners' scripts. Drawing upon the resource of 'quantification', she turns up the volume of these feelings for an evening spent marking, saying '[I felt] proud of them. Especially when I was marking their scripts, that was just amazing. That was a whole evening' [ITiv28]. On marking the learners' scripts she documents her feelings in her diary. Feelings of happiness, affection, satisfaction and pride are checked [EDE for Aii].

In class the worth of performance in physics receives prominence as Lydia guides the learners towards writing a 'Merit' or 'Excellence' answer in preparation for the test. As learners are instructed to write 'increase'/'decrease', rather than 'bigger'/'littler' she tells them 'We want Excellence for this' [LTxxiii310], and later 'We want a Merit or Excellence answer' [LTxxiii459]. The worth of being able to do a task in physics is also indicated through reference to results. For circuit diagrams, she instructs the learners to look for 'holes', otherwise they are told they will 'lose marks' which would be 'very sad' [LTiii133]<sup>50</sup>.

## 2. External Relations: Responding to the Learners' Feelings

For Lydia's responsiveness to the learners' feelings, I examine her high-low value ascriptions with regards to the learners' feelings concerning performance in B (e.g. French). Lydia's direction of focal attention towards the learners' feelings results in the synthesis of different kinds of representations, namely: performance in A (i.e. science)

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<sup>50</sup> For example: [LTvi496-498] [LTviii124-126] [LTviii136-138] [LTxii55] [LTix218]

and B (e.g. French). It is notable that the evidence for Lydia's attentiveness towards her learners' feelings is supported by her engagement in voluntary regulatory activity with regards to her learners' feelings. For example: For 'anxiety' Lydia conveys assisting her learners to find 'solutions' to the difficulties they are confronted with, so that they are 'not just sitting in a hole', but are looking at 'ways to get out':

Some of them can't, because of their lives, you know, see a possible glimmer of light at the end of the tunnel. So, you're trying to provide opportunities, provide solutions. Yeah, like kids who've left their books at home and they should be studying. I'll go and find something for them to study. [ITiv66]

**Performance in A and performance in B.** Lydia assists a learner to prepare flashcards for French (selection of communication). After the learner comments 'It takes forever' to make flashcards, she tells her 'Well, we'll take some time to do it' (pacing). As she does not have a homeroom class, the learner is told to come during that time. She tells the learner 'I'll come and help cut, alright? And get the little guillotine, chop them up'. Lydia expends effort into that which of value to the learner. Although she initially prompts the learner to make flashcards for chemistry (sequencing), she assists the learner to do so for French after the learner explains 'I need to do it for French, because I'm failing French' (evaluation criteria) (*Figure 4.6.1-1*) [LTvi233-236].

[LTvi232-236]

vi	232	T: Okay, have you [made flashcards] for the other [section of the unit]?
vi	233	S1: No, not yet. That's only one packet, it takes forever.
vi	234	T: It does, but worth doing it, because you're actually learning something while you're doing it. But, if you want to do it for other subjects, like chemistry.
vi	235	S1: I need to do it for French, because I'm failing French.
vi	236	T: Okay, okay. Well, we'll take some time to do it. If you don't like doing it at home, come and do it in home room. I'll come and help cut, alright? And get the little guillotine, chop them up.

Lydia also offers to assist the learners to make flashcards for maths. She announces to the class 'I'm more than happy to run through your books and get cue cards out for maths to help you' [LTvi44-54]. When the learners write a maths test, the learners are permitted to

spend the last ten minutes of class studying for the test when an assigned exercise has been completed. In addition to offering to answer questions on trigonometry [LTii165-170], she organizes for learners to assist each other too. She comments to a learner '[Name] was pretty happy this morning, she did some [maths] in Tech[nology]. Maybe ask [name] that question. Go down and see her' [LTiv431].

-C	<b>Classification</b>	Performance in A (chemistry) and Performance in B (French).
-F	<b>Communication</b>	Preparing flashcards for French.
	<b>Pacing</b>	'Well, we'll take some time to do it'.
	<b>Sequencing</b>	'Come and do it [French, rather than chemistry flashcards] in homeroom'.
	<b>Criteria</b>	'I need to do it for French'. [learner] [LTvi233-236]

KEY -C Weak Classification -F Weak Framing

*Figure 4.6.1-I* Weak classification and framing for an activity that pertains to assessment in French

In 4.6.1 I examined the implications of Lydia's favouring of an 'axiological' emotional principle for pedagogic relations by bringing value to the fore. For 'external' relations, e.g. performance in A and B, Lydia's high-low value ascriptions realize relations marked by weak classification and framing. (In line with the definition for emotional awareness provided by Lambie and Marcel (2002) that outlines emotional awareness to be underlain by focal attention, the synthesis of different kinds of representation is supported by her emotional awareness.). Lydia deploys her attention towards the learners' achievement in physics, as well as other subjects. For physics, she ascribes worth to grades as she guides the learners towards writing an 'Excellence' answer in preparation for a test. She also gives importance to the learners' performance in the unit test, and records feelings of happiness, affection, satisfaction and pride in her emotion diary on marking the learners' scripts. For the learners' other subjects, she gives prominence to the learners' achievement in maths and French in the science classroom during the study. An example of a 'less specialized' text for performance is evident when she shows the learners' completed garments for fabric design to the science teachers in the staff workroom. It is evident that Lydia's efforts to regulate the other staff members' feelings, concerning the



learners' ability to achieve, are voluntary when she articulates the manner in which she tries to show them the learners' attainments that they are unaware of. At an individual level, Lydia's high-low value ascriptions realize an emotional practice of graded feelings. Her high-low value ascriptions build a pedagogic subject with regards to value that ascribes a high-low degree of worth to performance in A. At a social level, Lydia's high-low value ascriptions realize relations between the individual (the 'inner') and the social (the 'outer') marked by weak classification. For example, her positive appraisal of the learners' completed garments in fabric design expands the dialogic space to the staff in the technology department. For Lydia's responsiveness to the learners' feelings, her high-low value ascriptions bring about relations marked by weak classification and framing. She ascribes worth to a learners' feelings concerning performance in A (namely, science), and B (e.g. French). Her high-low degree of responsiveness is evident as the pacing, sequencing and criteria change to degree as she aids the learner in terms of performance where the learner most needs assistance.

#### **4.6.2 Evaluation and Subjectivity**

In 4.6.2 I examine the implications of Lydia's favouring of an 'axiological' emotional principle for *subjectivity* by foregrounding control. In the first instance, I consider the implications of her high-low ability ascriptions for own enhancement, inclusion and participation concerning performance. Secondly, I look at the implications of her high-low ability ascriptions for the following three aspects of the language of description: the orientation (comparative/ individualistic), the level (general/ specific) and the criteria (explicit/ implicit). Lastly, I address the implications for the enhancement, inclusion and participation of a learner with regards to performance.

##### **1. The Pedagogic Communication: Lydia**

***Intrapersonal level.*** Lydia's high-low ability ascriptions realize graded opportunities for 'enhancement' in the building of subjectivity. Commenting on feelings of anger that pertain to her practice, she says 'It's a total raw anger they can do so much more'

[ITiii10] revealing a high ‘action-outcome expectancy’ concerning her learners’ ability<sup>51</sup>. Lydia is motivated to show the learners they are ‘worthwhile’, and to ‘give them something to look at’ [ITi80]. Feelings of ‘pleasure’ for her learners’ success ‘no matter how small’ [ITii48] are conveyed. Her construction of her learners’ success is one that is not defined in either or terms, but rather in more fluid terms:

I’ve tailored my teaching to being able to show them care and concern, and drag them as far as they can. And for some kids it might be a very little change, but yeah, that’s my driving for teaching. That’s what I want to do. [LTi80]

Lydia’s appraisal of her own control to do with performance at school presents a genealogy of change. Despite being appraised as a ‘weak student’ at high school, she goes on to reappraise her ability as she completes studies at university and starts to ‘blossom’ [ITiv108]. Lydia points to others who saw her as able, as the reason she is a teacher, saying ‘If I hadn’t have people help me like that and give me possibilities of how to make it better I wouldn’t be here, yeah, I would be a typist in an office’ [ITiv108]. She conveys feelings of anger as she recollects how others framed that which she is able to do, placing her in a ‘box’. These same feelings are elicited when her learners are likewise appraised [ITiii10].

I started off in a class like that at high school, and got a nice B.Sc., graduated Teachers’ College with distinction, and all the accolades in the world. But, yeah, for a while there I was in a box and it took a lot of effort to get out of it. And that boxing thing really gets on my wick. [ITiii10]

**Interpersonal level.** Lydia’s high-low ‘action-outcome’ expectancies realize graded opportunities for ‘inclusion’. Commenting on the degree to which the environment is dialogically expansive to her investment in performance feelings of frustration and anger are conveyed when the lower band learners are ‘boxed’, ‘not expected to achieve’, and ‘not taught everything’ [ITiii10]. She relays the ‘irritation of everyday having to go out and bat for them’ at the school, saying ‘That’s a constant’ [LTiii54].

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<sup>51</sup> Weiner (1984) provides ‘anger’ as an indirect cue that inadvertently communicates to the recipient high ability ascriptions.

It's bad enough to keep it in check in the classroom, but then when you run across a staff member who believes that they can't be, that's when the anger and the frustration really come in. [ITiii86]

The trajectory of these feelings can be traced back to when Lydia first began her teaching career in the early Eighties. An anecdote is relayed from 'way back' when she was 'fighting with the Latin teacher' who she ran into conflict with after being put in charge of exam timetables and supervisions.

I put him in to supervise a bottom science class, and he came, and was very sarcastic, and said, 'Are you trying to show me something I've never seen before?' And he meant it. He thought they were just the dead wood of the earth, and that was his opinion. [ITiii54]

Lydia may construct a community that is more dialogically expansive to that which is of importance to her, and that which is of value to others, by inviting members from the community that lies outside the bounds of the classroom, and school, to come inside. A community that is open to diversity is constructed as the social network of relationships that she and her learners are interconnected with becomes ever more extensive. Lydia invites a prior learner of hers who came to reappraise herself as competent over time to talk to her learners.

I still see this one, she's forty two now, she was like that, and it took a massive grief in her family and she had to help in the family. And she came back to see me ten years after she had left school, and told me what had happened. [ITi196]

Talking about her relationship with her family, and what she thought about school, the prior learner, now an adult, prompts the learners to address their studies. In so doing the right of 'enhancement', 'inclusion' and 'participation' is extended to those that Lydia and her learners come to be interconnected with.

She's actually spoken at the school too, specifically aiming at kids like that, you know, that you can't just run away from it. It's going to come back, and you need to really address it. [ITi196]

**Communital level.** Lydia's high-low degree of personal control realizes graded opportunities for participation and brings 'solidarity' to the fore. She encourages staff members at the school to appraise themselves as able to equip their learners to perform by conveying her excitement and delight when the learners achieve [FNv]. She says 'You just go and talk to them... You point out specific kids that have made a change, so that you're trying to model what you would like them to try and pick up' [ITiii90]. Lydia also encourages parents to appraise their child accordingly [ITi128]. In doing so, she regulates her feelings through 'situation modification'. As Lydia has aimed to 'convince other staff that these kids [are] worthwhile' [ITi78] throughout her career moments of sheer pleasure have been brought forth. Recollecting her learners' success early on in her teaching career, she remarks 'The first few kids who went through and ended up being given bursaries, in those times, it was delicious for me' [LTi78].

In addition to prompting other staff members to have a higher 'action-outcome' expectancy regarding their learners' ability to perform, Lydia sets out to equip herself to be better able to assist her learners. She does so by taking a year off at the start of her career, from teaching at Verda Girls' High, to do further studies on 'slow learners' needs' [ITi78]. Lydia conveys how equipping the lower band learners to be successful in school has played a principle role in directing her teaching at the school, saying 'The one thing I wanted to do was to make a difference to kids who had academic problems' [ITi78]. Additional course work aimed at teaching lower band learners is done throughout her career [ITi78]. Lydia appraises herself as having become progressively more competent in terms of teaching the lower band learners over time, saying 'It's an area I like. I feel quite skilled in it... I think I'm good at it now. I know the skills, I know the tricks' [ITiii60].

Although Lydia tries to 'connect with' and 'motivate' all learners to achieve, she is not always be able to do so. The exclusion of learners 'who don't want to get involved' may cause her 'angst' [EDEviii]. After a lesson from which she emerges feeling 'gutted' due to a 'lack of 'buy in'' [EDEvii], she finds it difficult to concentrate the following lesson. In her diary she reports 'replaying an incident from the past', where thoughts that came to

mind were difficult to stop [EDEviii]. To minimize the potential for further disappointment Lydia may do ‘ego-defensive coping’. For the following lesson she decides to ‘just teach’ and ‘move [the] topics forward’. Writing further in her diary, she reports ‘moving on, and realizing that there are some I will be unable to connect with and motivate’ [EDEviii]. Her desire to ‘connect’ with each learner is evident in a later diary entry as she writes ‘Had some success with one student, but ‘lost’ another student!’ [EDExviii].

Lydia’s high-low ability ascriptions realize a pedagogic communication that acts on the ‘meaning potential’ in an expansive manner. The pedagogic communication is expanded to interpersonal and ideational meanings concerning performance for A (e.g. staff members at the school) to varying degrees, and becomes increasingly more dialogically expansive to performance when she talks to staff members about low achieving learners who have gone on to attain bursaries, for example. An ‘ideal-non-ideal’ pedagogic subject is constructed with regards to control that involves a high-low degree of controllability concerning performance.

## **2. The Pedagogic Communication: The Learners**

Having considered the pedagogic communication with regards to performance for Lydia, I look at the pedagogic communication for her learners. I begin by considering the ‘underlying rules’ for the pedagogic communication relayed in the process of transmission and acquisition. I do so by drawing upon several events that pertain to achievement, such as the presentation of the grades to the learners. Following this, I look at the implications of Lydia’s ability ascriptions for the enhancement, inclusion and participation of a learner. I do so by referring to an example of a learner who is absent for two weeks due to an exchange trip overseas and gives up trying to achieve on her return.

## 2.1 The ‘Underlying Rules’ for the Pedagogic Communication

***The orientation.*** Lydia’s favouring of an ‘axiological’ emotional principle foregrounds a language of description concerning an individualistic orientation. In the first instance, an individualistic orientation is brought to the fore when Lydia gives the learners their grades, or the learners recount their grades. For the unit test, she hands out the learners’ grades to individual learners over a period of four days. For a ‘pop quiz’, she asks the learners one-to-one how they ‘got on’, and the learners informally call out their results [LTiii50-61].

An individualistic orientation is also evident when Lydia directs her attention towards those who excel in the unit test, and those who don’t. For example, she tells those learners who receive ‘Not Achieved’ for the unit test before giving the grades to the class [ATiii100 day 2, time: 48.53]. When a learner who attains ‘Excellence’ asks Lydia ‘Are you proud of me?’ she responds ‘I’m really pleased’. Further she expresses her desire to the learner to assist those who fell short of ‘Excellence’, saying ‘That’s what’s worrying me’ [ATiii113-118 day 2, time: 48.53].

***The criteria.*** The underpinning of Lydia’s emotional practice by an ‘axiological’ emotional principle brings implicit criteria to the fore highlighting ‘process’. For example: Before the unit test, she prompts a learner to work towards ‘Merit’/ ‘Excellence’, saying ‘You can get there. You all can’ [LTxxiii466], when the learner asks her if an answer of hers would get her ‘Achieved’. Lydia also gets the learners to solve a problem together as a class. Once solved correctly, she gives the learners positive feedback contingent on their success. She tells them ‘That’s about the hardest question you’re ever going to get asked in terms of your test. Okay, you can do it. You’ve just got to play with them’ [LTxviii167].

Once the unit test is graded Lydia tells a number of the learners their results individually over a period of four days. On doing so, her appraisal of the learners’ control is elusive. It is hinted at, whispered, communicated verbally. The learners are told to keep it to

themselves, and not tell anybody. They are told to think about it [LTxxiii]. When Lydia gives all the learners their grades on the fourth day emphasis is not placed on an exact appraisal of their ability. She announces ‘If you want to know exactly what you got you can see me at the end of class’. Emphasis is instead placed on doing better when she remarks ‘Some of you are just knocking on the door of Excellence’ [ATiii102 day 2, time: 48.53].

***The level.*** Lydia’s favouring of an ‘axiological’ emotional principle foregrounds a language of description to do with the specific processing of emotional information. If a learner gets ‘Not Achieved’ for the unit test, she gives the learner the opportunity to work out which ‘bits’ she is unsure of, and to ask her questions [ITiv106]. When a learner is absent for nineteen days out of the ten week term, during which the physics unit is taught, Lydia prompts her to consider that which she is able to do, and that which she isn’t. She encourages the learner further to do the ‘very best’ she can, and to ‘keep working’, so that she can get ‘some more success’:

When it comes to the common test, and the post test, don't worry too much of this if it's too hard, but we've got most of the motion, we'll just see how you go. And we'll just repair everything before the exams, cause you're doing really nicely at the moment, so we don't want you to get flustered over it. [LTxviii451]

## 2.2 The Pedagogic Communication: A Learner

***Intrapersonal level.*** An ‘axiological’ emotional principle involves a language of description that may be relayed to the learners concerning appraisals of a high-low degree of controllability. Lydia is ‘perfectly honest’ with a learner who puts little effort into the unit of work following her return from an exchange trip overseas. She remarks to the learner that since she’s come back, she’s been a ‘lazy little toad’ [ITiv70]. Rather than dwell upon a negative appraisal of self though, she encourages the learner to reappraise her ability. Lydia indicates that ‘There’s no point in just sitting there thinking I’m lazy, I’m going to fail’ [ITiv70]. Instead, she tells the learner that she has ‘seven days’, and ‘all the skills she needs’ to rectify the problem [ITiii10]. Lydia places emphasis on ‘getting

there', rather than getting either 'Excellence', or 'Not Achieved'. Although the learner may no longer get the 'Merits' and 'Excellences' that she wanted at the beginning of the year, she prompts the learner to ensure that she gets the 'Achievement' grades [ITiv70].

***Interpersonal level.*** An 'axiological' emotional principle concerns a language of description that may be relayed to the learners concerning high-low 'action-outcome' expectancies. Although Lydia states the learners are 'quite capable', she adds that a number of the learners 'just refuse to perform for tests and exams, they won't jump through the hoops, they don't want to' [ITiii8]. Lydia relays feelings of frustration concerning a learner who refuses to do any better, because she doesn't want to be away from her friends. Another learner is said to work only if seated on her own [ITiii8].

***Communital level.*** An 'axiological' emotional principle involves a high-low degree of participation as the teacher engages with the learner to varying degrees and teaches the learner strategies to deal with obstacles. Following Lydia's discussion with the learner, the learner moves to the front of the classroom of her own accord, and sits at the end of the bench so that she can more easily gain assistance from the teacher [ITiv70]. Commenting further on the learner's efforts to succeed, Lydia says 'She's asking lots of really good questions, and has started to try again' [ITiv70].

Lydia's high-low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in an expansive manner. The pedagogic communication is expanded to interpersonal and ideational meanings concerning performance for A (i.e. the learner who 'gives up' trying) to varying degrees. She encourages the learner to reappraise her ability and teaches the learner strategies to achieve whilst placing emphasis on 'getting there' rather than being either successful or unsuccessful. As the learner starts to try again so the pedagogic communication becomes increasingly more dialogically expansive to performance.

In 4.6.2 I looked at the implications of Lydia's favouring of an 'axiological' emotional principle for subjectivity by bringing control to the fore. For control with regards to



Lydia, I examined the implications with regards to the building of the pedagogic communication for performance. Lydia favours high-low ability ascriptions in the building of the pedagogic communication. For example: she has a high-low ‘action-outcome’ expectancy concerning performance for A (e.g. staff members at the school). Her high-low ‘action-outcome’ expectancy is revealed through her feelings of anger when the learners are ‘not expected to achieve’ and ‘not taught everything’. Lydia’s appraisal of her own ability to achieve at school is marked by a genealogy of change. Despite being appraised as a ‘weak’ student at school, she went on to reappraise her ability as she completed studies at university and began to ‘blossom’. The evidence for her preference of high-low ability ascriptions is supported by the following statement made concerning her/ her learners’ ability: ‘And that boxing thing really gets on my wick’. Lydia’s high-low ability ascriptions realize a pedagogic communication that acts on the ‘meaning potential’ in an expansive manner. For example, she conveys her excitement and delight when ‘specific kids’ begin to achieve to ‘convince other staff that these kids [the lower band learners] [are] worthwhile’. She invites a prior learner who came to reappraise herself as competent over time to talk to the learners.

For control with regards to the learners, I examined the implications for the language of description relayed through the process of transmission and acquisition: Firstly, Lydia places emphasis on the individual when the learners recount their grades for a ‘pop quiz’ by asking the learners one-to-one how they ‘got on’, and getting them to informally call out their grades. Secondly, she brings implicit criteria to the fore by not ascribing importance to an exact appraisal of the learners’ ability following the unit test. She tells the learners that if they want to know ‘exactly’ what they received they can obtain their grades after class, and instead highlights process by emphasizing the manner in which learners are ‘knocking on the door of Excellence’. Lastly, she processes emotional information at a specific level by getting a learner who attains ‘Not Achieved’ to consider the ‘bits’ she is unsure of, and to ask questions. I also considered the implications for enhancement, inclusion and participation for the learners using an example of a learner who returns from an exchange trip two weeks into the unit and gives up trying after deciding she has ‘lost it’. Lydia’s high-low ability ascriptions realize a pedagogic

communication that is expanded to interpersonal and ideational meanings concerning performance for A (namely, the learner who ‘gives up’ trying) to varying degrees. In her engagement with the learner, she places emphasis on ‘getting there’ rather than attaining either ‘Excellence’ or ‘Not Achieved’. An ‘ideal-non-ideal’ pedagogic subject is constructed with regards to control that involves a high-low degree of controllability concerning performance.

### 4.6.3 Summary

In sum, Lydia favours high-low value and ability ascriptions with regards to performance. The processing of emotional information at a specific level realizes ‘relations between’ and ‘within’ marked by weak classification and framing. For value, she ascribes worth to the learners’ completed garments in fabric design and shows them to teachers in the science department. For control, she formulates high-low ability ascriptions with regards to prompting staff members to appraise themselves as able to equip the lower band learners, and conveys her excitement to them when learners achieve. Lydia’s high-low value and ability ascriptions build a pedagogic subject that feeds back on the meaning potential in an expansive manner. I illustrate the building of a ‘non-linear’ model of emotion for Lydia, for the category performance, as shown in the figure below.

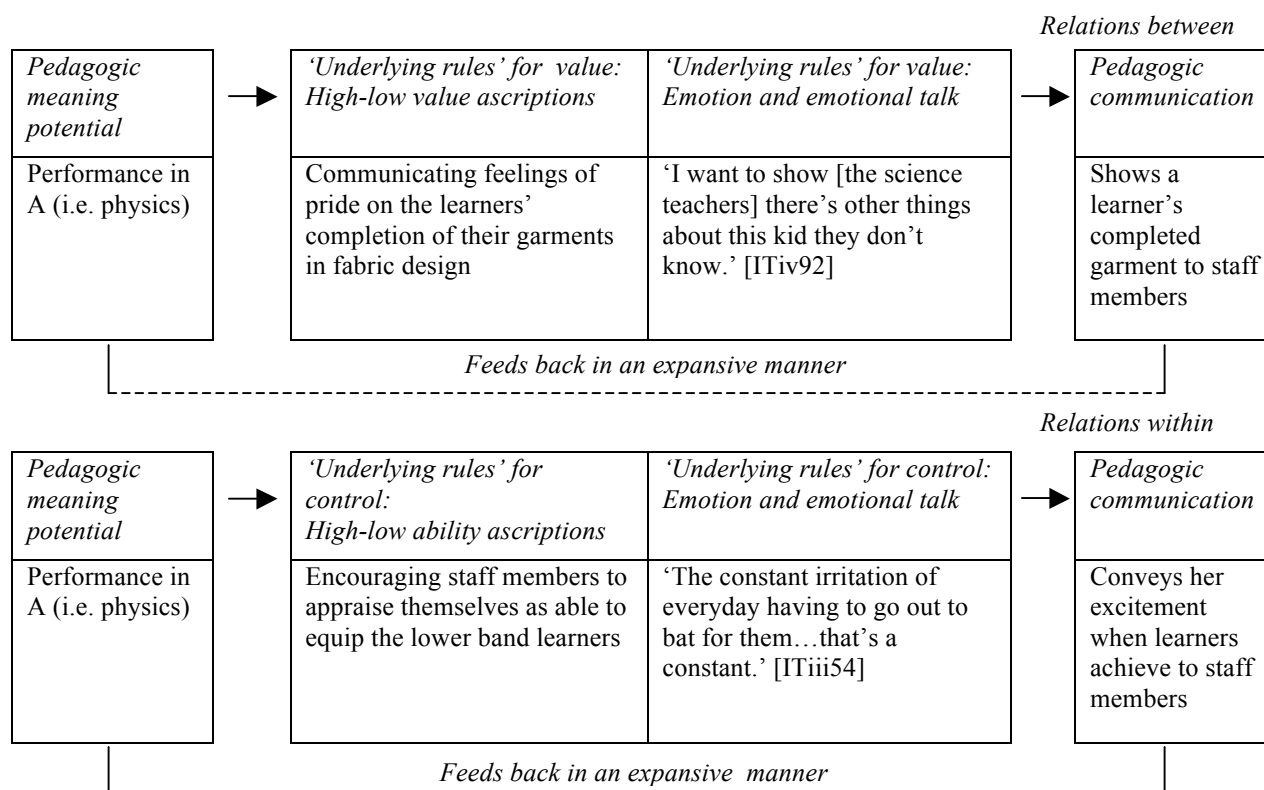


Figure 4.6.3-I The building of a 'non-linear' model of emotion for performance

## 4.7 An Emotional Investment in Holism for Julia

### Introduction

*The good news is you can copy [the conclusion] almost from your aim. It's not too bad, is it? So you don't have to say, I think in primary school they taught you to say, 'In conclusion, I found that blah, blah, blah.' You don't have to do that now. Yeah, I know. It's changed a bit, isn't it? [LTj183]*

In the excerpt above, Julia sharply contrasts the conclusion of a scientific report written in primary school with one written in high school. She negatively appraises the detail of a primary school report as superfluous evident from her description of it as simply 'blah,

blah, blah’. In 4.7 I examine the principles that appear to inform her dialogic behaviour with regards to holism. I do so to uncover more fully why, for example, she instructs the learners to omit the first person singular ‘I’ from the conclusion of a report in the extract above. I begin by looking at the interactions between evaluation and relations, and then consider the interactions between evaluation and subjectivity.

### 4.7.1 Evaluation and Relations

In 4.7.1 I look at the implications of Julia’s favouring of an ‘ideological’ emotional principle for *pedagogic relations* by unpacking her value ascriptions for holism. For ‘external’ relations, e.g. holism in A (i.e. the science classroom) and B, I look at her high or low value ascriptions for holism in A. For ‘internal’ relations, I focus on holism and mastery in A. Julia’s value ascriptions for holism in A appear to reveal a discrepancy between inner experience and outer expression through a ‘shutting down’ of feelings.

In advance of considering relations for holism, I draw attention to the manner in which the evidence for her inattentiveness towards her feelings is supported by her expression of a lack of engagement in voluntary regulatory activity. As shown in the extract below, she relays not ‘actively’, or ‘consciously’, trying to regulate feelings of ‘frustration’. It is of interest that her statement ‘I try to stay really positive with the students’ foregrounds the general processing of emotional information in the generation, or regulation, of emotions in line with those strategies favoured by an ‘ideological’ emotional principle.

I don’t think that there is something that I actively do. I guess that right through every year I try to stay really positive with the students, and friendly with them. And I think that that helps to not have any of those feelings...I mean, I certainly don’t do that consciously. It’s just that I know that I like the girls, and that I want to be in class with them. [ITc88]

## 1. External and Internal Relations

### *Holism in A and holism in B*

**High value ascriptions.** Julia's high value ascriptions concerning holism in A realize 'external' relations marked by strong classification and framing. Her high value ascriptions for holism in A are evident from the importance given to 'playful' behaviour. She comments if the learners know that she is not 'afraid' to be 'silly', it enables the learners to be 'silly' [ITc20]. In presenting a genealogy of the worth given to playful behaviour, she remarks that she has 'always' done 'lots of silly things' with her learners [ITc24]. The reason she engages in 'silly' behaviour, she says, is because it's 'fun' [ITc20], and because it makes her 'human' [ITc20], lowering 'some boundaries and defenses' [ITc20].

It is noteworthy though, that although Julia ascribes a high degree of value to 'playful' behaviour in her emotion and emotional talk, the meaning of 'playful' behaviour for her appears to suggest low, rather than high, value ascriptions for holism in the context of the science classroom: Firstly, she depicts 'silly' behaviour as separate from the regular classroom activities [ITa90]. It is portrayed as behaviour that is considered to be somewhat indulgent, as she permits herself to momentarily go 'off task' [ITa90]. It is associated with 'real' feelings of 'happiness' and 'affection' [ITa90]:

I think when those like real feelings of happiness and affection come along, it's such a nice feeling. And, I quite often then let myself go off task a bit, and have just have a bit more fun...Or, say something silly that's not directly related to the topic. [ITa90]

Secondly, she associates the term 'silly' with 'silly mistakes' as well [ITc20]. She says if the learners know that she is not 'afraid' to be 'silly', it enables the learners to make 'silly mistakes' [ITc20]. The behaviour may then be seen as behaviour to be 'fix[ed]' [ITd61], within a safe and loving environment:

If they know that I'm not afraid to be silly...then I think it enables the girls to be silly. And it enables the girls to make mistakes. So, it's sort of all about setting up that feeling in the room, of a sort of a safe environment, where it's okay to be, make silly mistakes as well. [ITc20]

Thirdly, her demonstration of 'playful' behaviour in the classroom appears to be less spontaneous in relation to Lydia. For an activity in which she role-acts, she prepares the learners beforehand by stating that she is going to do such, and provides the opportunity for the learners to 'think' about deceleration as the rationale:

[LTn278-280]

<i>n</i>	278	T: I'll have to do my crazy running. Okay, this is going to be crazy, crazy running. I'm doing deceleration, which means that I have to start really fast, and I'm going to get slower, and slower. And, I'm going to try to be slowed down to stationary at five metres, which is about here, which is nothing. Because that is where all the cables are, and I'll fall, and I'll probably kill myself.
<i>n</i>	279	Ss: [Slightly laugh.].
<i>n</i>	280	T: Right, now watching, watching [name], watching. By crickey, this is going to be silly, but I want you to think about what would happen if I went back down hill. So I'm going to start fast, and go slow. [Julia role-acts.]. So start fast, go slow, go slow, go slow, go slow, here I am. I'm five metres from the door.

Julia's high value ascriptions for holism in A are also evident from the worth given to the learners' development as a 'whole person' [ITa240]. She gives value to equipping the lower band learners with 'skills' [ITa240] that prepare them for when they 'go out into the world' [ITa240], saying 'I do see that sometimes I have frustrations with teaching kids things, particularly less able kids, things that aren't particularly relevant to their life' [ITa240]. She expresses feelings of frustration due to her consideration of the curriculum at the school as having little 'relevance' to the 'life' of her learners [ITd112]. The worth she ascribes to a more holistically-oriented curriculum is discussed further in 4.7.2.

**Low value ascriptions.** Julia's low value ascriptions concerning holism in A realize 'external' relations marked by strong classification and framing, and reveal inconsistencies in her emotion and emotional talk concerning the worth of holism. Her low value ascriptions are evident from the value given to 'mature' behaviour: She

remarks ‘Jackie, if I can’t trust you to be grown up, I’ll have to treat you like a kid’ [LTp280] when Jackie writes something other than science on a hand-held whiteboard, and prompts her further to ‘responsible’ and ‘mature’ [LTp282]. On another occasion she remarks ‘Hey Jackie, let’s not be silly, okay?’ [LTl316] after Jackie lets out a whoop as a learner sets off to cover a certain distance on the footpath outside for a graphing activity. The evidence for the value ascribed to mature behaviour is supported when two learners who are reprimanded state ‘I wasn’t being silly’ [LTp286-290] using the conversational analytic notion of “uptake” as a validating tool (Sarangi, 2003, p. 168).

Julia’s low value ascriptions for holism in A are also revealed through the prominence given to effort, where effort is valued in and of itself. She emphasizes ‘busyness’ in her role as teacher at Verda Girls’ High, saying ‘If I was less busy, I would be able to do more. And I think that teaching is just, it is never finished’ [ITd94]. She reiterates this further saying ‘So, if I had more time, I would be able to do more, always’ [ITd94]. Julia emphasizes ‘busyness’ in the classroom too. The learners are told ‘You should always be making [the parachute], or writing [the method], you should not ever be doing nothing’ [LTu64] for a four-day preparatory practical assessment task. When learners are not busy, she asks the learners ‘Why are we sitting around doing nothing?’ [LTu256] and ‘Why is there idle hands?’ [LTu193].

The worth ascribed to effort is evident for an investigation in which the learners need to determine the time taken to cover a certain distance by walking, skipping and running on the footpath outside. For the activity she refers to the role of ‘walker’, ‘skipper’ and ‘runner’, for example, for the activity as ‘jobs’, saying ‘I’m going to get volunteers for jobs. Now have a think about what you want to do...I’m going to go for first hands up that I see, for each job I want’ [LTl68]. At the end of the activity Julia gathers the learners around her, before they return to class, and conveys her feelings of pride for their ‘hard’ work [LTl517]. She praises the learners for getting ‘stuck in’ and not ‘messing around’ in doing their respective jobs [LTl431]. The learners’ cooperation in getting the job done is positively appraised too:

I just want to say that I'm really proud of you. You did that really well, not much messing around, you've just got in, got stuck in, and done it. And good on you, that's really good. So, it's so nice to be able to come outside, enjoy the sunshine, have a bit of science, and it's not a big deal. So good on you. [LTl431]

### *Holism in A and mastery in A*

Julia's high or low value ascriptions with regards to holism realize 'internal' relations marked by strong classification and framing. Strong classification and framing is evident when her and the learners go 'off task' [ITa90] to 'play'. For example: She begins a demonstration on electrical resistance by having a 'little play' (selection of communication) [LTc217]. The demonstration involves rolling a marble (representative of an electron) down a nail bed (representative of a wire). On introducing the activity, she says 'I love this experiment. It's really nice just to play' (evaluation criteria) [LTc217]. Julia and the learners first of all have a 'little play' (pacing) [LTc217] during which she releases all of the marbles down the nail bed.

[LTc217-222]

c	217	T: I love this experiment. It's really nice just to play. So, we'll just have a little play. These [the marbles] are really, they're nice, I like them. They're quite sort of tactile, and they make nice noises. So let's just listen to them, actually just for fun, we'll put them all in, watch them all go down.
c	218	Jackie: Ah, ha, ha, eeh, hee, hee, hee, hee.
c	219	Ss: [laugh].
c	220	Jackie: That's so funny.
c	221	S: Look at that one. It doesn't want to go down, does it?
c	222	T: Eh, he. Good girls. Isn't that nice? Isn't that a nice experiment? I like this one.

After having had a 'little play', Julia *then* asks the learners to be 'scientists' and observe the pattern in the movement of a single marble, as it rolls along the path of the nail bed in which the nails are spaced variously apart in different sections (sequencing) (*Figure 4.7.1-1*). She tells the learners 'So far we've pretty much just been having fun. I want you to watch the speed of this now...and see if you can see any pattern in the speed' [LTc253]. Strong classification and framing mark a discourse that is sensual, emotional and playful as all the marbles are sent bouncing and gyrating down the nail bed, and a



more intellectual, rational and orderly discourse in which a single marble is sent down the nail bed and the pattern in terms of its motion observed.

+C	<b>Classification</b>	Another emotional investment and Holism in A.
+F	<b>Communication</b>	‘We’ll just have a little play’.
	<b>Pacing</b>	‘We’ll just have a <u>little</u> play’.
	<b>Sequencing</b>	‘ <u>So far</u> we’ve pretty much just been having fun. I want you to watch the speed of this <u>now</u> ’.
	<b>Criteria</b>	‘I love this experiment. It’s really nice just to play’. [LTc217-253]

KEY +C Strong Classification +F Strong Framing

*Figure 4.7.1-I* Strong classification and framing for the activity of ‘play’

In 4.7.1 I examined the implications of Julia’s favouring of an ‘ideological’ emotional principle for pedagogic relations by foregrounding value. For ‘external’ relations, e.g. holism in A and B, her high or low value ascriptions realize relations marked by strong classification and framing. Julia’s high value ascriptions regarding holism are evident from the importance given to the development of the ‘whole’ learner and ‘child-like’ behaviour: She ascribes importance to ‘skills’ that prepare the learners for when they ‘go out into the world’. She relays a genealogy of play, stating that she has ‘always’ done ‘lots of silly things’ with her learners. It is noteworthy though, that Julia’s association of ‘silly’ behaviour with that which is not ‘directly related to the topic’, for example, seems to suggest a low degree of worth, rather than high degree of worth, regarding the importance of holism in the science classroom. Julia’s low value ascriptions regarding holism are revealed through her emphasis on ‘adult-like’ behaviour and effort, where effort is valued in and of itself: She prompts Jackie to display ‘responsible’ and ‘mature’ behaviour when Jackie writes something other than science on her hand-held whiteboard. She conveys feelings of ‘pride’ to her learners for getting ‘stuck in’ and not ‘messaging around’ in doing an outdoors activity. At an individual level, her high or low value ascriptions realize an emotional practice of strong feelings. In addition, they appear to reveal a dislocation between inner experience and outer expression involving a ‘shutting down’ of feelings. (Her inattentiveness towards her feelings is supported by her expression of a lack of engagement in voluntary regulatory activity.). Julia’s high value

ascriptions build an ‘ideal’ pedagogic subject with regards to value that ascribes a high degree of worth to holism in A. At a social level, her high or low value ascriptions insert a dislocation between the individual (the ‘inner’) and social (the ‘outer’). For example: Her emphasis on ‘mature’ behaviour contracts the dialogic space to Jackie, when Jackie lets out a ‘whoop’, as a learner sets off to cover a certain distance on the footpath outside for the purpose of generating data for a graph. For ‘internal’ relations, e.g. holism and mastery in A, her high or low value ascriptions concerning holism realize relations marked by strong classification and framing. For a demonstration on electrical resistance, she ascribes a low degree of value to ‘play’ when, after having had a ‘little play’, she asks the learners to be ‘scientists’ and to observe the pattern in the movement of a single marble as makes its way down a nail bed. Strong classification and framing mark a discourse that is sensual and playful, and a more rational, orderly discourse.

### 4.7.2 Evaluation and Subjectivity

In 4.7.2 I address the implications of Julia’s favouring of an ‘ideological’ emotional principle for *subjectivity*, with regards to Julia, by foregrounding control. I begin at an intrapersonal level by examining enhancement, a condition for ‘confidence’: “Where that right is not met then neither students nor teachers will have confidence, and without confidence it is difficult to act” (Bernstein, 2000, p. xx). I then focus upon inclusion, a condition for ‘communitas’. Lastly, at a political level, I look at participation.

#### 1. The Pedagogic Communication: Julia

***Intrapersonal level.*** Julia’s high or low ability ascriptions realize opportunities or constraints for ‘enhancement’ in the building of subjectivity. She formulates low ability ascriptions with regards to implementing a curriculum that addresses the needs of the ‘whole person’ [ITa240], and relays feelings of frustration on account of this [ITb25]. Her low ‘action-outcome expectancy’ in terms of the degree to which the environment is dialogically expansive to holism is evident from her appraisal of the curriculum at the

school as having little/ no relevance to the learners' lives [ITb25], and in her exclusion of 'feelings' from her appraisal of the science classroom too [ITc116]. I discuss her appraisal of the environment in further detail in the next section.

***Interpersonal level.*** Julia's high or low 'action-outcome' expectancies realize opportunities or constraints for 'inclusion'. She appraises the environment as one that bears little significance to the requirements of her lower band learners [ITd112], saying 'I often feel that a lot of the stuff I have to teach them they will never use, or relate to, in their life' [ITb25]. She formulates her appraisal of teaching physics by processing emotional information at a general level: On account of a perception of the curriculum as being of little benefit to 'the kind of future [the learners] will have' [EDE2008.08.22], she says 'the whole thing just does feel a little bit pointless' [ITc116].

Julia expresses feelings of frustration [ITb25] at the opportunity lost to teach her learners that which she would appraise to be of value. She remarks 'I think that the time I have with them is so valuable, and I feel that it's wasted' [ITb25]. Feelings of sadness are evident from the tone of her voice when she relays that those aspects she would appraise to be of benefit to the lower band learners, such as knowing more about car safety, are not taught. She says 'We don't really even talk about [car safety]. But we could, but we don't' [ITc116].

In addition to appraising the environment at the school as one that bears little 'relevance' to the 'life' of her learners [ITb25], Julia also excludes 'feelings' from her evaluation of the science classroom community. She appraises the community of the science classroom as one that principally concerns 'thought' [ITc116]. As shown in the extract provided below, she reiterates 'think'/'thinking' four times upscaling the importance of 'thought' to the community of the science classroom through the resource of 'quantification':

I often think that science is a really great tool for teaching people to think. And so with the more able girls it doesn't matter if it doesn't directly apply to their lives, or their future, because I'm still teaching them to think...If I was teaching them [the lower band learners] to think, and there is the odd girl that I think I have, like

[name] has done a bit of thinking in this course...[then] that's great, and I've got no problem with that. It's just a shame that I have to do that for all of the class. [ITc116]

Although Julia appraises the higher band class as capable in terms of 'thinking', she considers that only the 'odd girl' [ITc116] has done a 'bit of thinking' [ITc116] in terms of her lower band class. As a result, she expresses 'frustration' [ITc114] at having to teach a curriculum that she considers to be of little benefit to her learners. In relaying the genealogy of these feelings, she remarks that she 'felt quite similar' with a lower band class that she taught at a previous school in which the learners were being taught 'abstract stuff' when they lacked the 'basic mathematical skills that they needed for life' [ITc120].

***Political level.*** Julia's high or low degree of personal control realizes opportunities or constraints for participation and brings 'power' to the fore. Her participation in different communities of practice is evident when she resigns, during the year of the study, and applies to teach at a primary school due in part to her desire to teach a more holistically-oriented curriculum. Her feelings of frustration due to the perceived constraints of the environment appear to be brought to the fore when things are not going well in her day-to-day teaching at the school:

I think that I do sometimes question what I'm doing as a teacher, and with my life, and whether I want to do that. And it's times like that [when things are not going well] that probably I do that more...When things are going well, and everyone understands, and everyone is achieving, and thinking, and passing, and learning, probably it feels a lot easier to be a teacher. [ITc118]

Feelings of frustration are also considered when she takes time to 'sit down', and relays her feelings to those who may lend an ear:

This [teaching a curriculum that is deemed not to be relevant to the learners' lives] sometimes causes me to feel disillusioned with my job, sometimes to the point where I think about leaving, but mostly I just feel sad for the girls and then back to frustration again. This happens if I sit down and think about it or talk about it with someone. [EDE2008.08.22]

In line with those emotion regulation strategies favoured by an ‘ideological’ emotional principle, Julia regulates her feelings through ‘situation selection’ by selecting a workplace environment in which she can implement a more holistically-oriented curriculum when she resigns from Verda Girls’ High. She provides the reasons for selecting to work at primary school, rather than high school, to be in part the ‘opportunity’ to ‘come in at a much more fundamental level’, and to equip the learners with ‘skills’ that are important for their ‘development as a whole person’ [ITa240].

Julia’s low ability ascriptions realize a pedagogic communication that acts on the ‘meaning potential’ in a contractive manner (i.e. an enhancing *or* restricting manner). The pedagogic communication is expanded to interpersonal and ideational meanings concerning holism for A (i.e. the primary school context) and contracted to interpersonal and ideational meanings concerning holism for B (i.e. the high school context). The emotion regulation strategy of ‘situation selection’ plays a central role in the building of a pedagogic communication accordingly. An ‘ideal’ pedagogic subject is constructed with regards to control that involves a high degree of controllability concerning holism for A.

In 4.7.2 I looked at the implications of Julia’s favouring of an ‘ideological’ emotional principle for subjectivity by bringing control to the fore. Julia favours high or low ability ascriptions in the building of the pedagogic communication with regards to holism. For example: She has a low ‘action-outcome’ expectancy concerning the relevance of the curriculum at the school for her lower band learners. She processes emotional information at a general level in formulating her appraisal of the implementation of the curriculum, saying ‘The whole thing just does feel a little bit pointless’. Julia also has a low ‘action-outcome’ expectancy concerning the science classroom as an emotional practice. She remarks ‘I often think that science is a really great tool for teaching people to think’, and draws upon the resource of ‘quantification’ to upscale the importance given to ‘thinking’ by repeating ‘think’/ ‘thinking’ four times. Her high or low ability ascriptions realize a pedagogic communication that acts on the ‘meaning potential’ in a contractive manner. The pedagogic communication is expanded to those elements that come under ‘thinking’, and contracted to those under ‘feeling’, namely: ‘dominant’ and

‘dominated’, ‘scientific’ and ‘everyday’ knowledge, ‘rational’ and ‘embodied’. In addition, prior to her resignation, the pedagogic communication is expanded to a ‘disciplinarian-based’ curriculum and contracted to a ‘holistically-oriented’ one.

### 4.7.3 Summary

In sum, Julia favours high or low value and ability ascriptions with regards to holism. The processing of emotional information at a general level realizes ‘relations between’ and ‘within’ marked by strong classification and framing. For value, she ascribes a low degree of value to ‘play’ when, after having had a ‘little play’, she then asks the learners to be ‘scientists’ and to observe the pattern in the movement of a single marble as it makes its way down a nail bed. For control, she formulates low ability ascriptions in terms of teaching a holistically-oriented curriculum, and selects to teach at primary school due to the opportunity to teach ‘fundamental’ life skills. Her high or low value and ability ascriptions build a pedagogic subject that feeds back on the meaning potential in a contractive manner. I illustrate the building of a ‘linear’ model of emotion for Julia, for the category holism, as shown in the figure below.

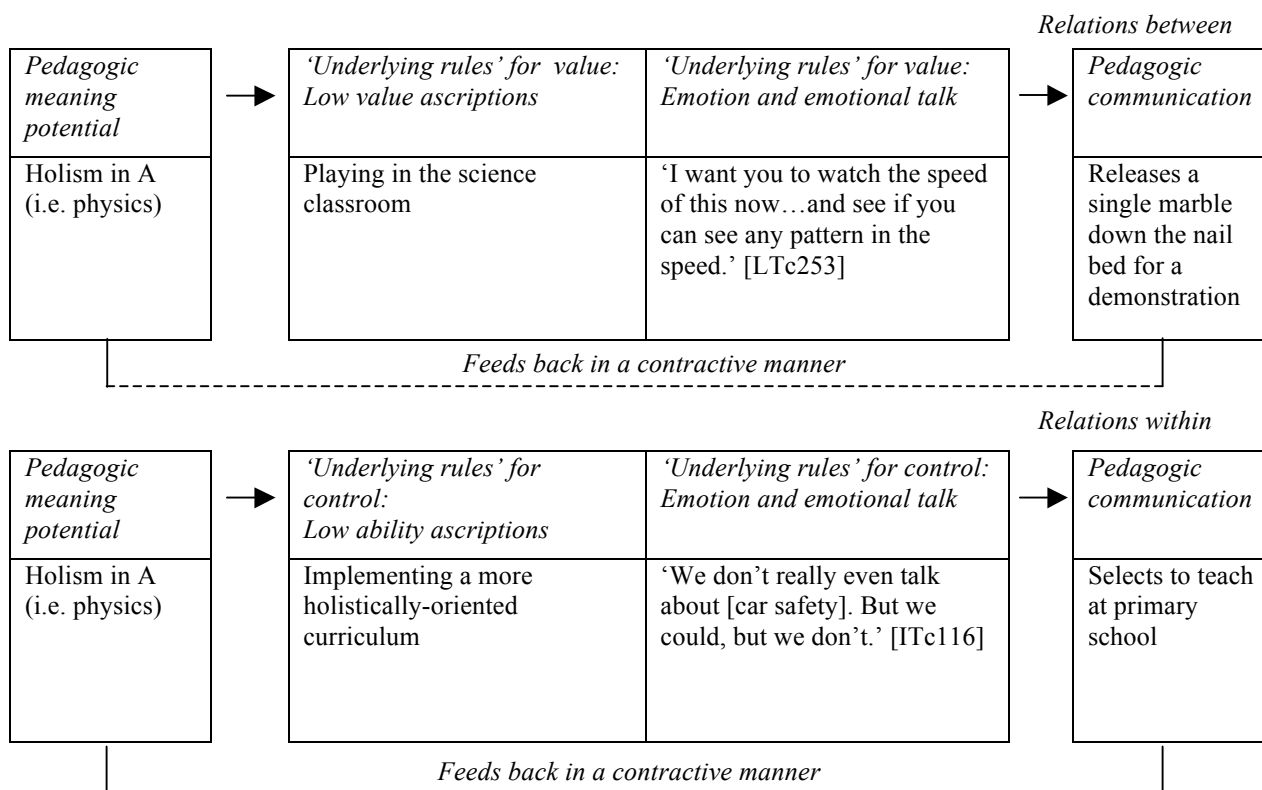


Figure 4.7.3-I The building of a ‘linear’ model of emotion for holism

## 4.8 An Emotional Investment in Holism for Lydia

### Introduction

*I think that you should read it and see how Mr. [name] writes [the aim and method for a scientific report] up, okay? Every person does it differently, but it’s all the same thing. He’ll tell [his class] exactly what I’ve told you to do but in a different way. You might like those words better in terms of your thinking. So have a read of it, okay? [LTxxiii556]*

In the interaction above, Lydia instructs her learners to read the scientific report that has been left on the whiteboard by a Year 10 science teacher who teaches a higher band class. In contrast to the report written by her and her learners, the report includes the first person singular ‘I’, and provides further measurements [LTxxiii17]. In 4.8 I examine the

principles that appear to inform Lydia's dialogic behaviour with regards to holism. I do so to uncover more fully why, for example, she directs the learners' attention not only towards the report constructed by her class, but towards a different report that happens to include the first person singular 'I' as well. I begin by looking at the interactions between evaluation and relations, and then consider evaluation and subjectivity.

### 4.8.1 Evaluation and Relations

In 4.8.1 I address the implications of Lydia's favouring of an 'axiological' emotional principle for *pedagogic relations* by foregrounding value. Lydia's high-low value ascriptions bring about pedagogic relations marked by weak classification and framing realizing the synthesis of different kinds of representation. For 'external' relations, I examine the synthesis of holism in A (e.g. the high school context) and B (e.g. the primary school context). For 'internal' relations, I look at holism and mastery in A.

Ahead of addressing relations for holism, I highlight that the synthesis of different kinds of representation is supported by Lydia's emotional awareness and hence engagement in voluntary regulatory activity (This is in line with the definition for emotional awareness provided by Lambie and Marcel (2002) who indicate that emotional awareness is underlain by focal attention whose operation synthesizes different kinds of representation.). For example, for feelings of 'frustration', Lydia relays prescribing certain activities, following a lesson in which the learners cause upset, to "down-regulate" (Sutton, 2007, p. 266) the learners' feelings:

It [feelings of 'frustration'] can change your whole way of doing things. They frustrated the hell out of me yesterday, so I made them write notes for a period today. I made sure I had lots of filling out tasks, word finds, looking up stuff in the book, whole range of activities so that my thoughts of them from yesterday were changed. [ITiii28]



## 1. External and Internal Relations

### *Holism in A and holism B*

Lydia's high-low value ascriptions concerning holism in A realize 'external' relations marked by weak classification and framing. She ascribes importance to holism in A (e.g. the high school context) and B (e.g. the primary school context). In the first instance, she ascribes importance to the notion of 'play' through her frequent use of the term 'play', as well as her 'playful' behaviour in the classroom. For example, she reminds the learners to alter a different variable when they repeat a practical investigation the following week by saying: 'You will have to play with [the parachute] in a slightly different way' [LTxxii346]<sup>52</sup>. In addition, for the same practical investigation, she spontaneously releases the parachute into the air whilst revising the method. She builds up excitement, saying 'Da, da, da, da, da', and exclaims 'Wee' as it floats downwards [LTxx145].

Lydia negotiates spaces in the classroom, and school, in which her learners can play. One of these spaces is the computer laboratory. Lydia's learners get to play when they construct electrical circuits using a simulation program. Lydia demonstrates to a learner how to make a 'fire' by increasing the resistance of the electrical circuit, saying 'Watch this, even better. Wwhhee [laughs]. Now we've got a fire' [LTxix141-145]. Lydia asks a learner 'Have you got problems with your eyesight, dear?' when a learner constructs a circuit that is 'humungous', to which the learner responds 'No, I just thought it would be cool to make it big' [LTxix109-308].

Lydia also 'breaks' into the learners' 'territory' in the classroom to 'play' [ITii104]. She teaches the learners by drawing on the learners' desks using a marker pen. Positively appraising the method of instruction, she says 'I love it as a teaching tool, I think it's fantastic' [ITii110]. Lydia ascribes importance to the learners getting to appraise her both positively and negatively. The learners get to see her as an 'ideal-non-ideal'. They get to see her being 'naughty'. She remarks 'They love it. They think it's an absolute doddle

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<sup>52</sup> For example: [LTi7] [LTi104] [LTii352] [LTiii7] [LTiii72]

that a teacher would do something that's so forbidden. And, I think that's important, you know' [ITii110].

Lydia relays the genealogy of the teaching tool to have begun a 'couple of years back' with her sitting at the front bench, drawing a 'flower', before the start of class [ITii110]. Her portrayal of the beginnings of the teaching tool to have been that of a flower, depicts the method of instruction as one that began fairly innocently. As the learners entered the classroom, so they began to tell her where to put the labels [ITii110]. Although she casts a lone figure to begin with, she is soon joined by others who contribute to the construction of the overall diagram. These contributions build upon each other.

After drawing the flower together, Lydia asked the learners 'Well, what else can we draw?', whereafter she 'turned around' and 'started on the next bench' [ITii110]. The individual spaces where the learners each sit began to be transformed. Boundary after boundary was crossed as the learners began 'climbing over tables' [ITii110]. Eventually the entire space of the classroom was transformed. The feelings that 'stick' to the diagrams are seen to build upon each other as pictures are drawn upon 'sixteen' of the benches [ITii110]. The space became transformed as diagrams that are normally to be found in a book, or on the whiteboard, playfully appeared on the benches.

Lydia communicates that doing an activity in which the learners get to play may keep the learners 'going for a week' [ITii136]. She comments 'So I try and do something every week to jolly them along' [ITii136]. The "prosodic nature" of these feelings (Martin and White, 2005, p. 19) is evident as they splash out across the unit, colour the surrounding lessons, and motivate the learners to continue in their efforts.

Secondly, Lydia ascribes importance to the notion of 'playtime' [LTxv251] with regards to the primary school context, and describes her learners as individuals who have come from primary school. In doing so she brings the genealogical pathway her learners have traversed, together with its interconnections between past contexts and relationships, to the fore. She construes the discourse of primary school to be 'freer', one in which the

learners ‘go out to play’. Although Lydia says the learners consider the notion of ‘play’ to mean ‘no work’, she appraises it to be ‘more work’. In playing, she remarks, the learners ‘listen’, and ‘think’, and ‘talk’, suggesting the importance of doing such in the process of negotiation [ITii142].

The basis of yesterday’s lesson in astronomy was I asked about day and night. And somebody discussed the house they were building on Extreme Home Makeover, that they were doing in Alaska. And it was light all the time. And that was the whole start of the lesson, and that started as playtime. [ITii142]

### ***Holism in A and mastery in A***

Lydia’s high-low value ascriptions concerning activities to do with holism, such as engaging with ‘everyday’ knowledge, realize ‘internal’ relations marked by weak classification and framing. For example: The learners move back-and-forth between ‘everyday’ and ‘scientific’ knowledge when the dialogic space is expanded to a learner’s attempts to make sense of circuits through the more “concrete” and “sensuous” reality of the classroom context (Martin, 2007, p. 40). When the learner asks ‘If you went, broke a thing in the wall, would you find like an ammeter in there?’, Lydia does not appraise the question negatively (evaluation criteria), but rather opens up the space to be curious, by responding ‘I don’t know’.

The learners’ sense-making of electrical circuits in terms of the reality of their day-to-day lives appears to be aided by the manner in which Lydia and her learners operate within multiple spaces of the school (pacing). As the learners discuss the circuitry within the school tracing the wiring, mapping out circuits within circuits, a picture is painted that reflects her and the learners’ movements as they course through the space within the school, moving into spaces, moving around spaces, and moving out of spaces, only to return to these spaces once more later on (sequencing). These spaces include the science classroom, sewing room and computer room (selection of communication) (*Figure 4.8.1-1*).

[LTii205-222]

ii	205	S: If you went, broke a thing in the wall, would you find like an ammeter in there?
ii	206	T: I don't know if you would find an ammeter in the wall. You do find it on the main fuse box at home...
ii	214	T: Like <u>this room</u> is on its own little switch system, but it's part of a big one and there is one big master switch you can turn off and everything goes off. Like in your house, does everyone know where the main switch is?
ii	215	Ss: Yeah.
ii	216	T: In your house.
ii	217	S: Oh, is it the box?
ii	218	T: Big box, big button. It's the same in the school but this is one little piece of a great big circuit...
ii	219	S: Is that like in the <u>sewing machine [room]</u> , when you turn that one switch on at the front and they all go on?
ii	220	T: Yip, that's right. There's a master switch in the <u>sewing room</u> .
ii	221	Eadith: Is that like on the <u>computers</u> ?
ii	222	T: Yip, the <u>computers</u> have got one as well. There is a master switch that the teacher can flick and they all go off. And that's exactly right. In the <u>sewing room</u> there is one big master switch, and then you've got lots of little ones.

-C	<b>Classification</b>	Mastery in A and Holism in A.
-F	<b>Communication</b>	'This [switch system] is one little piece of a great big circuit'. [LTii218]
	<b>Pacing</b>	' <u>Trying</u> to let them see that it is relevant out there'. [ITii88]
	<b>Sequencing</b>	'This room is on its own little switch system'; 'Is that like in the sewing machine [room]?'; 'Is that like on the computers?' [LTii214-221]
	<b>Criteria</b>	'You need to...bring them into your daily life'. [ITii88]

KEY -C Weak Classification -F Weak Framing

*Figure 4.8.1-I* Weak classification and framing for an activity that pertains to the concrete and sensuous reality of the school environment

In 4.8.1 I examined the implications of Lydia's favouring of an 'axiological' emotional principle for pedagogic relations by foregrounding value. For 'external' relations, e.g. holism in A and B, Lydia's high-low value ascriptions realize relations marked by weak classification and framing. (In line with the definition of emotional awareness provided by Lambie and Marcel (2002) that outlines emotional awareness to be underlain by focal attention, the synthesis of different kinds of representation is supported by her emotional

awareness and hence engagement in voluntary regulatory activity.). Firstly, she ascribes worth to the notion of ‘play’ and negotiates spaces in the school for her learners to play. She ‘breaks’ into the learners’ ‘territory to teach electrical circuits by drawing circuit diagrams on the learners’ benches with a marker pen. She also takes the learners to the computer laboratory to revise electrical circuits using a simulation program. Secondly, she ascribes value to the notion of ‘playtime’ from primary school and describes her learners not only as high school learners, but as learners who have come from primary school as well. The ‘prosodic nature’ of interpersonal meaning is evident when she indicates that the feelings from these lessons colour the surrounding lessons and ‘jolly’ the learners along. Lydia’s high-low value ascriptions realize an emotional practice of graded feelings. In addition, they build a pedagogic subject with regards to value that ascribes a high-low degree of worth to holism in A. For ‘internal’ relations, e.g. holism and mastery in A, Lydia’s high-low value ascriptions concerning holism realize relations marked by weak classification and framing. For series and parallel circuits, she ascribes worth to the ‘concrete’ and ‘sensuous’ reality of the circuitry within the school and ‘scientific’ knowledge. The learners’ sense-making of electrical circuits by tracing the circuitry within the school, mapping out circuits within circuits, mirrors her and the learners’ physical movements within the space of the school.

#### **4.8.2 Evaluation and Subjectivity**

In 4.8.2 I examine the implications of Lydia’s favouring of an ‘axiological’ emotional principle for *subjectivity* by bringing control to the fore. I begin at an intrapersonal level by examining enhancement, a condition for ‘confidence’: “Where that right is not met then neither students nor teachers will have confidence, and without confidence it is difficult to act” (Bernstein, 2000, p. xx). I then focus upon inclusion, a condition for ‘communitas’. Lastly, at a political level, I look at participation for holism.

## 1. The Pedagogic Communication: Lydia

***Intrapersonal level.*** Lydia's high-low ability ascriptions realize graded opportunities for 'enhancement' in the building of subjectivity. Lydia appraises herself as able, 'most of the time' [ITii142], concerning the negotiation of control in the classroom, saying 'You can only have [playtime] if you've got the discipline to go with it, to bring them back' [ITii142]. She plays with different 'personas' [ITii140] in the classroom, portraying herself as an 'old lady', only to act out spontaneously when it is least expected.

I laugh, and tell them that I'm old. I've got sore hands, I can't see properly, I'm an old lady, I need respect. I give all this old lady stuff so they don't expect me to do something nutty. But then again, they think I'm completely nuts. So, that's fine, and I play on it. [ITii140]

It would seem, from Lydia's various construction of the learners, that she would have a high-low 'action-outcome' expectancy in terms of the environment as conducive to 'play' as well. Lydia refers to her learners as 'children' [LTv27], 'kiddy widdies' [ITiv124] and 'bodies' [LTxii92]. Her learners do not always accept her construction of them accordingly [LTxii88-94]. On these occasions her use of humour simultaneously covers up and reveals the incongruities and ambiguities in the role of teacher, and student<sup>53</sup>.

I call them kiddy widdies. And they say, 'You can't do that'. I say, 'Yes I can. You're a kid'. 'I'm a student'. 'No, you're not. You're a pupil until you have the choice of your education... Would you prefer for me to call you a pupil?' And just make fun of the term. [ITiv124]

Although Lydia appraises herself as able to play some of the time, she admits that she is not able to do so as often as she would like. She remarks 'We did little bits of it [in the unit]... But, I can't do it all the time. And that's what I would love to be able to do' [ITi118-120]. A varying degree of openness on behalf of the teachers and school to an

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<sup>53</sup> In providing a critical interpretation to the use of humour, Eggins and Slade (1997) state "...humour enacts contradictions and conflicts in the social relations between interactants. It is these contradictions and ambiguities that interactants simultaneously expose and cover up through their uses of humour" (p. 156-157).

emotional investment in holism are provided as reasons as to why she finds it difficult to play in science. These reasons are discussed in greater detail in the following section.

***Interpersonal level.*** Lydia's high-low 'action-outcome' expectancies realize graded opportunities for 'inclusion'. She appraises the environment to be dialogically expansive to an investment in holism to varying degrees. In terms of the school, Lydia considers too much of an emphasis is placed on preparing the learners for the exams, saying 'My personal opinion is that we are too focused on curriculum' [ITi118]. Appraising science to be a subject in which there is a lot of potential to play, she remarks 'I would rather it went a little more this way, getting the kids to think about it, to observe stuff' [ITi118]. She expresses feelings of 'frustration' [ITi126] in trying to 'marry up' what she really wants to show the learners, with what they need to know for the exams [ITi118]:

I wish I could free it, and say, 'Right, we're going to study Chemistry, these are the big broad headings. What sort of things should we find out?' And just have it so open, it's not even funny, in Year 9 and 10. [ITi118]

Although certain of the staff members feel 'very similar' to Lydia in their desire to construct an environment in which the learners get to 'play' it is evident that her efforts are not always well received. In referring to the 'teaching tool' that involves drawing upon the learners' benches [Section 4.8.1], Lydia light-heartedly remarks 'I'm not allowed to draw on the desks anymore' [ITii108]. In relaying the genealogy of the conflict she has run into for using the instructional method, she comments 'I've had several years of strife over it' [ITii110]. The manner in which she appears to feel bounded by the context is evident when she remarks 'I think we need to get out of our box, and be a bit freer for goodness sake. Grow up, and smell the roses' [ITii110]. On stating such, she seems somewhat taken aback by her own response, laughing and saying 'That's very radical' [ITii110].

So that the environment is more expansive to an emotional investment in holism, Lydia invites members, from the school and broader community, into the classroom, commenting 'I don't mind grand central station, I quite like it' [ITi136]. She invites

others into the classroom so that the learners ‘think differently’ [ITi136], saying ‘It’s a good dynamic for them, because it rattles them when there are extras in the class’ [ITi136]. In learning to ‘think differently’ the learners may come to increasingly more or less possess the “gaze” (Maton, 2007, p. 97). Lydia comments ‘They’re learning a whole lot of other things, intangible things, which are important, which they may not otherwise get’ [ITi136]. Julia, the ESOL teacher, the laboratory technician [LTvi302], a student teacher [ITvi30-32], and the teacher aide all spend time in the classroom during the study.

***Communital level.*** Lydia’s high-low degree of personal control realizes graded opportunities for participation. Her high-low ability ascriptions concerning the use of certain instructional methods are revealed through her efforts to negotiate those teaching methods deemed to be appropriate at the school. For example: She tries to draw on ‘big sheets of paper’, instead of the bench, and chooses her marker pens ‘carefully’ so as not to make too much of a ‘mess’ [ITii110]. It is evident that the negotiation of that which is deemed permissible has become a class effort in which the learners appear to delight when she remarks ‘The kids understand, and they, all of my classes, if I do it, they’ve all decided who’s going to clean up after me’ [ITii110].

Lydia’s high-low ability ascriptions with regards to the implementation of a more ‘holistically-oriented’ curriculum are evident from her distribution of an article to colleagues, titled ‘Put a Little Science in Your Life’ (Greene, 2008). The article foregrounds to be child-like, to cross boundaries, and to explore in science. Lydia positively appraises the article, saying ‘[It’s an] absolutely wonderful article’, but adds further that it ‘unsettled’ her, because of her desire to play more in science with her learners [ITi118]. She tries to encourage others to consider the worth of play in science by ‘flick[ing]’ the article on to them via the school intranet [ITi122].

Although Lydia says ‘a couple’ of the staff members in the science department had a low ‘action-outcome expectancy’ in terms of the implementation of a holistic approach to curriculum at the school, others responded more positively [ITi122]. In particular, one colleague of hers went on to give similar articles to her [ITi122]. As texts concerning



holism begin to move back-and-forth between teachers in the staff workroom, so the context at Verda Girls' High becomes more dialogically expansive to an emotional investment in holism.

Lydia's high-low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in an expansive manner. The pedagogic communication is expanded to interpersonal and ideational meanings concerning holism for A (e.g. Verda Girls' High) to varying degrees. In addition, it becomes increasingly more dialogically expansive to holism with regards to A when she forwards the article 'Put a Little Science in Your Life' onto the teachers in the science department. An 'ideal-non-ideal' pedagogic subject is constructed with regards to control that involves a high-low degree of controllability concerning holism.

In 4.8.2 I looked at the implications of Lydia's favouring of an 'axiological' emotional principle for subjectivity by bringing control to the fore. Lydia favours high-low ability ascriptions in the building of the pedagogic communication with regards to holism. For example, she has a high-low 'action-outcome' expectancy concerning holism for A (e.g. Verda Girls' High). In her description of the school environment, she refers to staff members who feel 'very similar' to her in their desire to construct an environment of 'play'. She connects with these staff members, for example, by inviting them into the science classroom to teach the learners to 'think differently'. Lydia also refers to the conflict she has run into at the school, concerning her use of a 'teaching tool' that involves drawing upon the learners' benches, and light-heartedly remarks that she is no longer allowed to do so. Her high-low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in an expansive manner. She negotiates instructional methods deemed to be appropriate at the school by drawing on big sheets of paper, instead of the learners' benches, for example. She also regulates her feelings through 'situation modification' by distributing an article, concerning play in science, to staff members within the science department.

### 4.8.3 Summary

In sum, Lydia favours high-low value and ability ascriptions with regards to holism. The processing of emotional information at a specific level realizes ‘relations between’ and ‘within’ marked by weak classification and framing. For value, she ascribes importance to the notion of ‘playtime’ from primary school, and frequently uses the term ‘play’ in class. For control, she formulates high-low ability ascriptions in terms of implementing a holistically-oriented curriculum at the school, and forwards an article on science and play to the staff members via the school intranet. Her high-low value and ability ascriptions build a pedagogic subject that feeds back on the meaning potential in an expansive manner. I illustrate the building of a ‘non-linear’ model of emotion for Lydia, for the category holism, as shown in the figure below.

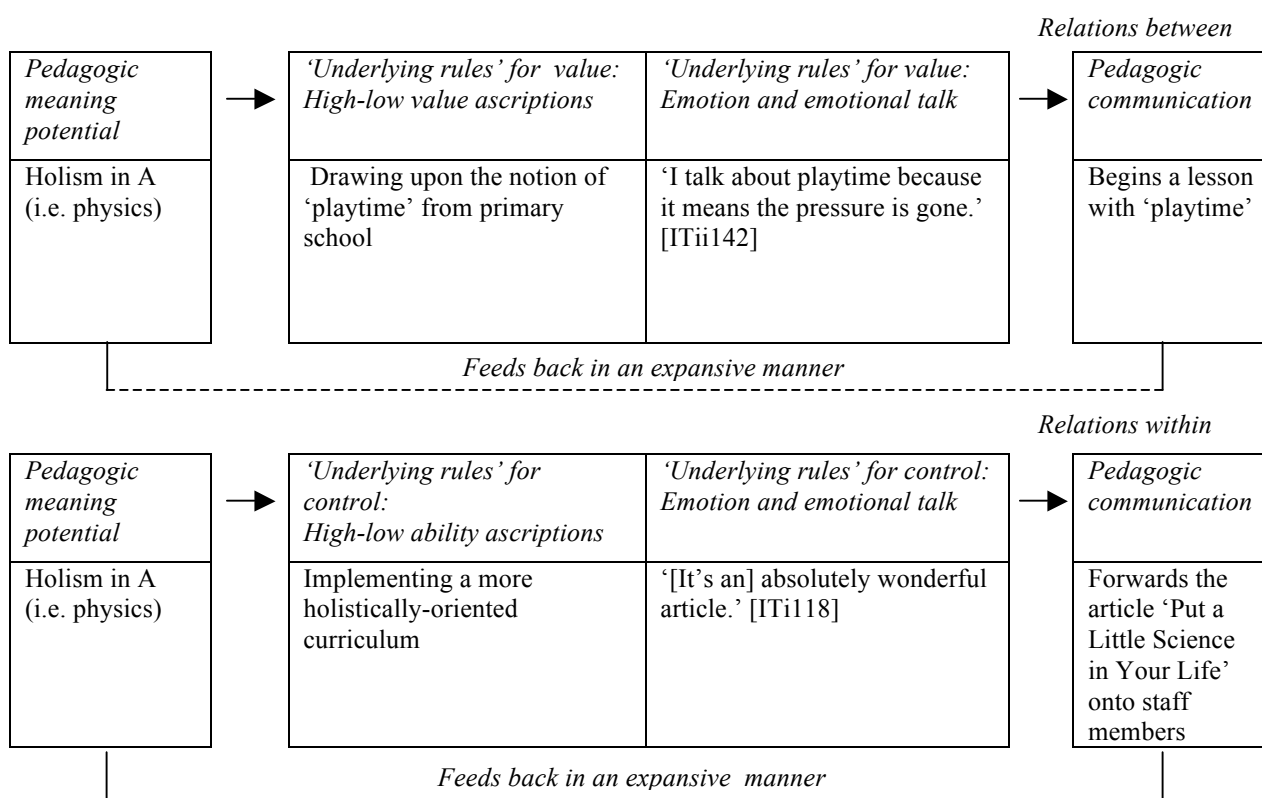


Figure 4.8.3-I The building of a ‘non-linear’ model of emotion for holism

## 4.9 Summary of the Report on the Data Interpretation and Analysis

In chapter 4 I reported on the implications of Julia's favouring of an 'ideological' emotional principle for pedagogic relations by foregrounding value. For 'primary' relations, Julia's high or low value ascriptions realize regulatory boundaries in space and punctuations in time. For example: She foregrounds 'attentional deployment' by getting the learners to put their pens down, and place their eyes upon her, and directs her feelings of affection towards those learners who display an interest in physics. For 'external' and 'internal' relations, Julia's high or low value ascriptions realize relations marked by strong classification and framing. For example: Her high or low value ascriptions with regards to rapport in A (i.e. the science classroom community) realize 'external' relations marked by strong classification and framing. In terms of high value ascriptions, she communicates her feelings of 'love' for the learners to them. In terms of low value ascriptions, she describes her use of the term 'love' as 'flippant' suggesting her experience of herself as inauthentic in the classroom. Julia's high or low value ascriptions realize an emotional practice of strong feelings. The evidence for an emotional practice of strong feelings is supported by her description of her emotion-expressive behaviour as involving either a high or low degree of expressivity. Julia's high or low value ascriptions for mastery, rapport, performance and holism in A (i.e. physics) appear to reveal a dislocation between inner experience and outer expression. The evidence for a dislocation between inner experience and outer expression is supported by her: (1) Communication of her engagement in expressive suppression; (2) Experience of herself as inauthentic in the classroom; (3) Low value ascriptions concerning feelings; (4) Low degree of emotional awareness due to an absence of focal attention; and (5) Lack of engagement in voluntary regulatory activity with regards to her feelings. Her high value ascriptions realize an 'ideal' pedagogic subject with regards to value that ascribes a high degree of worth to rapport, for example.

I also considered the implications of Julia's favouring of an 'ideological' emotional principle for subjectivity by foregrounding control. For control with regards to Julia, I examined the implications with regards to the building of the pedagogic communication. Julia favours high or low ability ascriptions in the building of the pedagogic communication. She formulates low ability ascriptions concerning: (1) Equipping the lower band learners to do physics; (2) Developing a relationship with all of her learners; (3) Implementing change concerning the school's perceived performance orientation; and (4) Teaching a holistically-oriented curriculum. Julia's high or low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in a contractive manner. She: (1) Omits learning outcomes from the unit of work; (2) Decides to pick learners to put time and energy into; (3) Engages in 'avoidance behaviour'; and (4) Selects to teach at primary school following her resignation. Julia's high or low ability ascriptions realize an 'ideal' or 'non-ideal' pedagogic subject with regards to control that involves a high or low degree of controllability concerning mastery, rapport, performance and holism. For control with regards to the learners, I examined the implications for the language of description relayed through the process of transmission and acquisition. Julia's high or low ability ascriptions realize a language of description that involves a comparative orientation, explicit criteria and the general processing of emotional information. I also looked at the implications for enhancement, inclusion and participation for the learners using an example of a high achieving learner, and a learner who 'cheats' on the unit test. Julia's behaviour aligns Jackie, and the learner who 'cheats', into formulating high or low ability ascriptions, and provides opportunities or constraints for inclusion and participation. I summarize the interactions between levels for evaluation, relations and subjectivity in *Figure 4.9-I* below.

<i>Characteristic of emotional principle</i>	<i>Framework: Component of framework</i>	<i>'Ideological' emotional principle</i>	<i>For example:</i>
<i>Evaluation</i>	Multicomponential model: Value	High/ low	Julia instructs the learners to deploy their attention towards her by placing their pens down, and their eyes upon her.
	Multicomponential model: Control	High/ low	She describes herself as the 'adult' and the learner as the 'child' and relays a 'fear' of a loss of control.

	Intensity of feelings	Strong feelings	She describes her emotion-expressive behaviour as involving either a high or low degree of expressivity.
<i>Relations</i>	'Relations between' and 'within'	Strong classification and framing	The relation between the classroom community, and external communities, is marked by an absence of synthesis.
	Primary relations: Space	Presence of regulatory boundaries	Julia instructs high achievers to stand up or raise their hands.
	Primary relations: Time	Punctuations in time	She tends to specify the time period in which the learners have to complete a task.
	'Emotional geographies'	Recontextualization (focus: macro level)	She selects the context of the primary school in order to develop more 'in-depth' relationships with her learners.
<i>Subjectivity</i>	Tri-stratal framework: Intrapersonal level	High/ low degree of personal control	Julia's statement: 'I just feel quite powerless to make changes' [ITb145] shows a low degree of control.
	Tri-stratal framework: Interpersonal level	High/ low 'action-outcome' expectancy	Her appraisal of the environment as having a high investment in achievement demonstrates a low 'action-outcome' expectancy concerning alternative positions.
	Tri-stratal framework: Political level	High/ low degree of participation	Her statement: 'I don't know what to do [to make changes]' [ITb145] reveals a low degree of participation.
	Genealogies of emotions	Structure orientation	A genealogy of 'structure' is evident from her statement: 'I feel quite powerless...And that comes up quite a lot' [ITb145].

*Figure 4.9-I* The interactions between levels for evaluation, relations and subjectivity for Julia

In addition to examining the building of a 'linear' model of emotion for Julia, I also reported on the implications of Lydia's favouring of an 'axiological' emotional principle, with regards to relations, by bringing value to the fore. For 'primary' relations, Lydia's high-low value ascriptions realize the absence of regulatory boundaries in space and punctuations in time. For example: She deploys her attention towards the feelings of those who dislike physics by asking the learners to visibly raise their hands in response to the question: 'How many of you hate this?'. She also rearranges the learners so that those who are interested are seated alongside those who aren't. For 'external' and 'internal' relations, Lydia's high-low value ascriptions realize relations marked by weak classification and framing. For example: Her high-low value ascriptions with regards to rapport in A (i.e. the science classroom community) realize 'external' relations marked

by weak classification and framing. She describes her emotional practice as ‘grand central station’ in which individuals, such as the ‘teacher aide’, ‘breeze in’ and ‘breeze out’ [ITi136]. In operating accordingly, she extends the pedagogic right of enhancement, inclusion and participation to these individuals foregrounding ‘solidarity’. Lydia’s high-low value ascriptions realize an emotional practice of graded feelings. The evidence for an emotional practice of graded feelings is supported by her description of her emotion-expressive behaviour as involving a high-low degree of expressivity. Lydia’s high-low value ascriptions for mastery, rapport, performance and holism in A (i.e. physics) appear to reveal emotion generation, or regulation, through reappraisal (focus: micro level), resulting in the synthesis of different kinds of representation. The evidence for emotion generation, or regulation, through reappraisal (focus: micro level), is supported by her: (1) Communication of her engagement in chronic reappraisal; (2) Greater recorded positive emotion experience in her emotion diary; (3) Greater expression of positive emotion in her emotion and emotional talk; (4) High degree of emotional awareness due to the presence of focal attention; and (5) Engagement in voluntary regulatory activity with regards to her feelings. Her high-low value ascriptions realize a pedagogic subject with regards to value that ascribes a high-low degree of worth to mastery, for example.

I also addressed the implications of Lydia’s favouring of an ‘axiological’ emotional principle for subjectivity by foregrounding control. For control with regards to Lydia, I examined the implications concerning the building of the pedagogic communication. Lydia favours high-low ability ascriptions in the building of the pedagogic communication. She formulates high-low ability ascriptions concerning: (1) Equipping the lower band learners to do physics; (2) Developing a relationship of mutual respect and care with Eadith; (3) Encouraging staff members to appraise themselves as able to equip the lower band learners; and (4) Implementing a more holistically-oriented curriculum at the school. Her high-low ability ascriptions realize a pedagogic communication that acts on the ‘meaning potential’ in an expansive manner. She: (1) Provides the learners with tasks of intermediate difficulty; (2) Does sewing and science in the school sewing room with Eadith during interval; (3) Conveys her excitement and delight when the learners achieve to staff members; and (4) Forwards an article, titled

‘Put a Little Science in Your Life’, onto the teachers in the science department. Lydia’s high-low ability ascriptions realize a pedagogic subject with regards to control that involves a high-low degree of controllability concerning mastery, rapport, performance and holism. For control with regards to the learners, I considered the implications for the language of description relayed through the process of transmission and acquisition. Lydia’s high-low ability ascriptions realize a language of description that involves an individualistic orientation, implicit criteria and the specific processing of emotional information. I also examined the implications for enhancement, inclusion and participation for the learners using an example of a learner who works inconsistently, and a learner who ‘gives up’ trying after returning to school two weeks into the unit. Lydia’s behaviour aligns the learners into formulating high-low ability ascriptions and equips them with strategies to deal with obstacles. I summarize the interactions between levels for evaluation, relations and subjectivity in *Figure 4.9-II* below. I examine the relation between these findings, outlined in brief above, and findings from previous studies in chapter 5.

<i>Characteristic of emotional principle</i>	<i>Framework: Component of framework</i>	<i>‘Axiological’ emotional principle</i>	<i>For example:</i>
<i>Evaluation</i>	Multicomponential model: Value	High-low	Lydia directs the attention of her colleagues towards the multiple facets that constitute their learners’ lives [ITiv92].
	Multicomponential model: Control	High-low	She no longer dons her ‘lab coat’, saying ‘I don’t need my lab coat anymore, I have my emotions under control’ [ITi176].
	Intensity of feelings	Graded feelings	She describes her emotion-expressive behaviour in the classroom as involving a high-low degree of expressivity.
<i>Relations</i>	‘Relations between’ and ‘within’	Weak classification and framing	Lydia’s statement: ‘I don’t mind grand central station, I quite like it’ [ITi136] brings synthesis in relations to the fore.
	Primary relations: Space	Absence of regulatory boundaries	She ‘break[s]’ into the learners’ ‘territory’ within the space of the classroom to ‘rattle’ them [ITii104].
	Primary relations: Time	Absence of punctuations in time	She does not tend to announce the start of class when the school bell rings, nor punctuate a lesson into time periods.
	‘Emotional geographies’	Recontextualization (focus: micro level)	She negotiates degrees of intimacy and distance in human interactions by inviting others into the science classroom.
<i>Subjectivity</i>	Tri-stratal framework: Intrapersonal level	High-low degree of personal control	Lydia’s statement: ‘I focus on the little pieces’ [ITi50] brings the formulation of high-low ability ascriptions to the fore.

	Tri-stratal framework: Interpersonal level	High-low 'action-outcome' expectancy	She focuses upon the learners' success 'no matter how small' [ITii48].
	Tri-stratal framework: Communital level	High-low degree of participation	She does 'lots of courses' [ITi78] throughout her career to equip herself to teach low achieving learners.
	Genealogies of emotions	Process orientation	Her statement: 'I think I'm good at it [teaching the lower band learners] now' [ITiii60] reveals a genealogy of change.

*Figure 4.9-II* The interactions between levels for evaluation, relations and subjectivity for Lydia



# Chapter 5 Conclusion

## Overview of the Conclusion

The rationale for this study has been to uncover the principles that inform Julia and Lydia's behaviour and shape their feelings. I have approached the theory and empirical data by beginning with the teachers' ways of perceiving the world, their goals, their abilities, asking questions along the lines of: Why does Julia apply to teach at primary school following her resignation? Why does Lydia modify the situation at the school concerning the teaching of a holistically-oriented curriculum? Towards the goal of uncovering the 'underlying rules' of the pedagogic communication, I have outlined models of emotion. These models enable cross-validation, and cumulative evidence building, across multiple levels at an "intraindividual" and "interindividual" level (Lazarus, 1999, p. 114) [Section 3.6.1]. They address various calls in the literature to develop systematic, comprehensive and fine-grained models.

In chapter 5 I outline the contributions of this study towards an understanding of the role of teachers' emotions in teaching and learning science. I begin by examining the manner in which the research approach adopted in this study, as well as the features of the models developed, provide insights into the role of teachers' emotions that other approaches and models do not. I then consider the relation between the findings on teachers' emotions in this study and previous findings on teachers' emotions, and outline the manner in which the language of description has been extended to analyze and reveal the role of the teachers' emotions. Lastly, I discuss future directions for research on teachers' emotions highlighting the strengths and limitations of the theories, methods and strategies adopted in this study.

## 5.1 Contributions Afforded by the Research Approach

In 5.1 I examine the manner in which the approach to the theory and empirical data in this study provides opportunities for examining the role of teachers' emotions that other approaches do not. I outline the insights provided by the approach adopted, firstly, in terms of the “*relay*” (Bernstein, 2000, p. 25), and then in terms of the “*relayed*” (Bernstein, 2000, p. 25) [Section 3.6.1 and 3.6.2]. In addressing the contributions afforded by the research approach I begin by outlining the manner in which previous studies provide insight into teachers' emotions. I then offer a brief commentary and critique of these studies. Lastly, I indicate the manner in which this study builds upon these studies and expands our picture of the role of teachers' emotions in teaching and learning science.

***The ‘relay’: Intra- and interindividual differences.*** Hargreaves (1998a) argues that “[g]ood” teachers are “passionate beings” (p. 835) and adopts a research method in line with his argument. He asks teachers to report on separate positive or negative emotion episodes and to relay “significant emotional episodes” (Hargreaves, 2000, p. 816). The research method adopted by Hargreaves is useful for examining “major choice and change times” (Sikes, Measor, & Woods, as quoted in Hargreaves, 2005, p. 970). However, a report on a positive or negative incident would not reveal within-subject differences with regards to inconsistent semantic choices on account of a weakening in the classification [Section 3.6.1]. In addition, a report on a significant emotional episode would not reveal differences between subjects concerning a person's attentiveness towards subtle and intense feelings.

One contribution of the research approach in this study towards an understanding of the role of teachers' emotions is that it involves an examination of within-person relations, and relations between persons, across conditions and over time. I approach the data and theory by looking for repeated patterns at an intra- and interindividual level and strategies that create variation on these patterns [Section 3.6.1]. In addition, I perform “interactional” reliability (Sarangi, 2003, p. 186) by moving back-and-forth between

levels and sub-levels of a multilevel theory at an intra- and interindividual level using the one to interrogate the other [Section 3.6.1]. This approach reveals within-person differences, such as a teacher's high value ascriptions, as well as low value ascriptions, concerning a category (e.g. 'scientific' discourse) across conditions and over time. It also gives insight into differences between persons, such as a teacher's attentiveness towards subtle and intense feelings, rather than intense feelings only.

***The 'relay': Individual and social implications.*** Gross and John (2003) examine the individual and social implications of the emotion regulation strategies of suppression and reappraisal. For suppression, their findings indicate that suppressors express lesser positive emotion, and have lower levels of environmental mastery. They are less emotionally aware and place emphasis on 'distance' [Section 2.3.2]. For reappraisal their findings show that reappraisers express greater positive emotion, and have greater levels of environmental mastery. They have better recall of social information and place emphasis on 'intimacy' [Section 2.3.2]. Gross and John's (2003) research methods draw upon peer and self reports to provide independent data sources to support their claims. However, they point out that their methods do not enable them to examine the implications of suppression and reappraisal in the context of specific emotion regulation episodes and call for future research to do so.

The approach to the theory and data in this study contributes towards our understanding of teachers' emotions on account of its consideration of the individual and social implications of suppression and reappraisal in "real-life contexts" (Do & Schallert, 2004, p. 620). Inserting emotion into an ethnographic study of the effects of different emotion regulation strategies reintroduces pain and pleasure in all its complex forms into our picture of the daily life of teachers and their learners (Lutz & White, 1986). It reveals a teacher's love for her learners, delight at her learners' success and passion for science. It brings us face-to-face with a teacher's feelings of powerlessness, feelings of isolation, and varied forms of coping from crying to venting to resigning. It also exposes the day-to-day application of force that functions to maintain the dominance of bosses over workers, teachers over learners (Lemke, 1995).

***The ‘relayed’: Agents, agencies, discourses, practices.*** Op’t Eynde, De Corte, and Verschaffel (2007) situate a teacher or learner’s emotions in a “time-space frame” involving a specific context (p. 188). An emphasis on context recognizes emotions are a function of teacher-environment interactions (Op’t Eynde, De Corte, & Verschaffel, 2007). However, it does not recognize different types of teacher-environment interactions, such as teacher-environment interactions involving the bringing together of contexts, or the separation thereof. A third contribution of the research approach in this study towards our understanding of the role of teachers’ emotions is that it foregrounds relations between categories. Following Martin (2003) who highlights the importance of co-text, in addition to context, to understand the function of evaluation in a culture this study directs its attention towards the ‘inner’ and ‘outer’. It examines a teacher’s bringing together of, or separation of, agents, agencies, discourses and practices.

***The ‘relayed’: Competence, achievement, connection and balance.*** Pekrun, Frenzel, Goetz, and Perry (2007) examine emotions associated with academic learning, and Weiner (2007) examines emotions that involve social phenomena. Few studies though look at the simultaneous negotiation or non-negotiation of goals, such as achievement and belongingness goals (Boekaerts, 2007). The research approach in this study provides additional insight into the role of teachers’ emotions due to the emphasis it places upon the relation between goals pertaining to competence, achievement, connection and balance. It does so by considering whether or not the pedagogic communication acts on these categories in an enhancing or restricting manner. It is of interest that the categories competence and achievement might be tied to ‘fathering’, and connection and balance to ‘mothering’, drawing upon Martin and White’s (2005) association of the affect categories of dis/satisfaction and in/security with ‘fathering’ and ‘mothering’, respectively.

In sum, the approach to the theory and empirical data in this study enables an investigation of teachers’ emotions in ways that other approaches do not. In terms of the ‘relay’, I examine within-person differences, and differences between persons, across conditions and over time, and the individual and social implications of suppression and

reappraisal in a non-artificial environment. In terms of the ‘relayed’, I examine not only context, but the relation between contexts, and highlight categories that concern mastery, performance, rapport and holism. Approaching the theory and empirical data in this manner addresses calls to recognize intra- and interindividual differences in research on emotion, and to study the implications of suppression and reappraisal in real-life contexts. In addition, it identifies a recognized need to foreground the relation between categories in studies on the function of evaluation, and to look at the simultaneous negotiation of a broad range of different goals.

## 5.2 Contributions Afforded by the Features of the Models

In 5.2 I examine the manner in which the different features of the models of analysis in this study open up the space for investigating the role of teachers’ emotions in ways that other conceptual and methodological frameworks do not. The models of analysis in this study can be described as: discursive, ‘recipient-designed’, multileveled, expanded, holistic and explicit. In addressing the contributions afforded by these characteristics I begin by discussing the perspectives afforded by previous studies on teachers’ emotions. I then offer a brief commentary and critique of these studies. Lastly, I indicate the manner in which the features of the models of analysis in this study draw upon these studies whilst providing further insights into the role of teachers’ emotions in teaching and learning science.

***The discursive nature of the models.*** Appraisal theory (Martin & White, 2005) includes a framework for mapping feelings. The framework outlines types of feelings and appraisals, and provides illustrative realizations. It also offers an analytic lens for the pedagogic practice through its organization of feelings and appraisals. In presenting their model, Martin and White (2005) articulate that having trained as grammarians they are uncertain as to how to motivate a lexis-oriented classification involving the mapping out of feelings as systems of oppositions. As a result, they present their maps of feelings as hypotheses about the organization of meanings. The models of analysis in this study

contribute towards our understanding of the role of teachers' emotions due to the manner in which they outline the motive for mapping out feelings as systems of oppositions, and otherwise, by bringing the teachers' motives to the fore. I adopt a two-way process of analysis between theory and data in outlining social semiotic principles for the classification of lexis that involves looking at the teachers' motives in terms of the 'relay', i.e. their emotional regulation goals (Sutton, 2004), and their motives in terms of the 'relayed', i.e. their goals concerning competence, etc.

***The 'recipient-designed' nature of the models.*** Hargreaves' (1998b) empirical analysis rests on the following assumptions with regards to teaching, namely: It involves the experience of opportunities or constraints in the attainment of moral purposes, affective connections to do with shared and shareable emotionality, and feelings of power and powerlessness. Hargreaves' model highlights central concerns in research into emotion, namely: evaluation, relations and subjectivity. However, the assumptions made may have the consequence of maintaining particular ideologies about the nature of knowledge due to the emphasis they place on dichotomies in the form of opportunities *or* constraints, feelings of power *or* powerlessness, shared *or* unshared emotionality. A second contribution of the models of analysis in this study towards our understanding of teachers' emotions is that they have been opened up in response to the object. Following Weigand (2000), I have sought not to restrict the object with the methodology thereby transforming it into an artificial one. Instead, in line with Hood (2004) I have adopted a two-way process of analysis using the theory to interrogate the data, and the data to interrogate the theory.

***The multileveled nature of the models.*** Bernstein (2000) outlines a theory of pedagogic relations. Two central components of his theory are classification and framing [Section 2.3.1]. I understand that classification and framing can be overlain with value and control, and in addition adds to these constructs by directing our attention towards relations by placing an emphasis on a boundary or frame which implies an 'inner' and 'outer'. However, the precise relation between these various constructs is not clear. For example: If classification and framing can be overlain with value and control then

evaluation is central to both constructs, however the element of ‘evaluation criteria’ is placed under framing only in Bernstein’s model [Section 2.3.1]. The models of analysis in this study provide a more complete picture of teachers’ emotions on account of the steps they take towards identifying commonalities between different theories in order to bring these theories together. In line with Weigand’s (2000) call for theoretical integration this feature of the models works towards fostering greater communication across channels.

***The expanded nature of the models.*** Bernstein’s (2000) theory of pedagogic relations recognizes two types of pedagogic models: a performance and competence model [Section 2.3.3]. In 2.1-2.5 I draw upon these two models extensively to outline a ‘linear’ and ‘non-linear’ model of emotion. However, it is of interest that although Bernstein identifies two models, his theory of pedagogic relations favours a performance model. As noted by O’Halloran (2007) this is most apparent from Bernstein’s descriptive and classificatory system that lays out those constructs identified in his theorizations in the form of oppositions (e.g., strong or weak classification). It is also apparent from Bernstein’s emphasis on power (rather than solidarity) and description of the pedagogic practice as an arena (rather than community). A fourth contribution of the models of analysis towards our understanding of teachers’ emotions is that they make progress towards the development of a language of description that pertains not only to typological analysis, but topological analysis as well. The models of analysis are expanded in response to the object by building on the steps already taken by others to do so.

***The holistic nature of the models.*** Christie’s (2002) developmental model of pedagogy is characterized by a “developmental history” (p. 177) that follows a ‘unidirectional causal model’ and directs our attention towards the ‘outer’ [Section 2.2.3]. Christie’s model is helpful for revealing the manner in which a teacher builds an ‘ideal’ pedagogic subject through the formulation of high value and ability ascriptions. However, to provide a more complete picture of a teacher’s emotions it is important to recognize a teacher’s low value and ability ascriptions. It is also important to recognize a teacher’s favouring of high-low value and ability ascriptions to be able to explain the difference between models in terms

of emotion expression, emotion experience, efficacy and emotional awareness. The models of analysis in this study provide additional insight into the role of teachers' emotions due to the emphasis they place upon the unity of 'inner' and 'outer' semiotic practices (Lemke, 1995). This provides the opportunity to examine inconsistent semantic choices that emerge through a weakening in the classification, as well as the "creative games" (Weigand, 2000, p. 6) that shape a teacher's practice.

***The explicit nature of the models.*** Zembylas (2004c) ascribes importance to emotion and reason, and power and solidarity. An emphasis on these different elements is important to provide a fuller view of social and cultural forms. However, Zembylas does not indicate the precise relation between different elements in his framework, such as emotion and reason, and at times this appears to lead to contradictions. For example: Zembylas' (2002) argument places emphasis on a rejection of dichotomies and the hierarchical relations they imply, whilst at the same time also placing emphasis on alignment thereby foregrounding vertical relations. In line with Leavitt (1996) I understand Zembylas' treatment of emotion as a type of cognition which has the paradoxical effect of reinforcing a mind-body opposition. The models of analysis in this study enrich our understanding of the role of teachers' emotions due to the manner in which they specify the nature of interactions between levels for a multilevel theory. They acknowledge the inter-relationship between emotion and reason, power and solidarity. In addition, they indicate the implications of bringing the one or the other to the fore.

In sum, the models of emotion in this study provide insight into the role of teachers' emotions that other frameworks do not. The models outline social semiotic principles for the classification of lexis that recognize different ways of perceiving the world. They integrate multiple theoretical perspectives and outline different descriptive and classificatory systems. They also specify the nature of interactions between levels for a multilevel theory. The models address calls to develop strategies of argumentation for the organization of feelings as systems of oppositions, or otherwise. They address a recognized need for the synthesis of different theories and classificatory systems that are



developed in response to the object. They also address calls for the development of explicit models to enable effective recognition, realization and choice between models.

## **5.3 Research Findings**

In 5.3 I outline the research findings of this study and contributions of the thesis towards the development of theory on teachers' emotions. In order to do so, I make reference to the research question provided in chapter 3, namely: How do a teacher's emotions influence teaching and learning science?, as well as the specific sub-questions posed, and analyze the findings for the research in accordance with the multilevel theory laid out in chapter 2. In 5.3.1 I focus upon the level of the theory that pertains to the 'underlying rules' of the pedagogic communication. In 5.3.2 I consider the level of pedagogic relations, and in 5.3.3 I examine the level of the framework to do with the pedagogic subject.

### **5.3.1 Research Findings: The Emotional Principle**

In 5.3.1 I analyze the findings for this study by drawing upon the level of evaluation for the multilevel theory outlined in chapter 2. I begin by providing key findings from previous research that pertains to this level, and then discuss the relation between these findings and the findings from this study. In doing so, I make specific reference to the first sub-question of the research question posed in chapter 3, to do with evaluation, by addressing the role of the teachers' emotions for: (1) appraisals concerning value and control; (2) the level for processing emotional information; and (3) the strength of feelings involved. Lastly, I address the expansion of the language of description for evaluation.

## 1. The Emotional Principle

In an ethnographic study of a primary school teacher, Catherine, Zembylas (2002, 2004a, 2004b, 2004c, 2004d, 2005a, 2005b, 2007a) investigates the role of the teachers' emotions in teaching science. Zembylas' (2007a) findings show that Catherine ascribes a high degree of worth to pedagogies other than teaching to the test. She demonstrates a passion and love for teaching inquiry and her emotions interact with her science teaching in powerful ways. However, in her daily life at school Catherine experiences feelings of powerlessness with regards to the implementation of an inquiry-based curriculum on account of the importance that her colleagues ascribe to teaching to the test. As a result, Zembylas (2005b) reports Catherine engages in micropolitical actions of resistance through celebrating "affective connections" and "exciting learning experiences" (p. 945) with her learners within the context of the classroom.

In this study, I examine the role of two high school science teachers' emotions in teaching and learning science. In line with Zembylas' findings for Catherine in terms of the "relay" (Bernstein, 2000, p. 25), Julia likewise tends to formulate high or low value and ability ascriptions with regards to different activities. She constructs an emotional practice of strong feelings, strong commitments and 'grand' narratives [Section 2.2.1]. Her emotional practice brings ideology, the ideational and power to the fore [Section 2.1.3]. The findings for Lydia expand upon Zembylas' findings in terms of the 'relay'. Lydia tends to formulate high-low value and ability ascriptions in her day-to-day teaching. She constructs an emotional practice of graded feelings, process-oriented behaviour and multiple narratives [Section 2.2.1]. Her emotional practice brings axiology, the interpersonal and solidarity to the fore [Section 2.1.3].

In order to distinguish between two types of "underlying rules" (Bernstein, 2000, p. 3) it was important in the development of theory to follow Weigand (2000) by beginning with the teachers' different ways of perceiving the world. In other words, I consider the teacher's own perspective in this study to be important to understand the meaning-making relevant to a teacher's appraisal processes and emotions (Lazarus, 1999). In

contrast, it would appear from Zembylas' (2004d) definition of an emotional rule that the 'underlying rules' are seen to be speaker-independent. He states: "An example of an emotional rule is when a teacher is emotionally forced to teach science the way everybody else does in [the] school – i.e., teach to the test" (Zembylas, 2004d, p. 197). I have expanded the language of description to account for two types of 'underlying rules'. I refer to a principle involving high or low value and ability ascriptions as an 'ideological' emotional principle, and one that involves high-low value and ability ascriptions as an 'axiological' emotional principle.

In sum, the findings for evaluation coincide with and expand upon the findings for the previous studies outlined on teachers' emotions. Most notably, a two-way process of analysis between theory and data in this study revealed the importance of intra- and interindividual differences. An examination of within-subject differences reveals high or low value and ability ascriptions for Julia, and a study of differences between subjects shows high-low value and ability ascriptions for Lydia. I have extended the language of description to distinguish different types of 'underlying rules' more precisely. For example: I refer to a principle that concerns high or low value and ability ascriptions as an 'ideological' emotional principle.

### **5.3.2 Research Findings: Pedagogic Relations**

In 5.3.2 I analyze the findings for this study by drawing upon the level of relations for the multilevel theory outlined in chapter 2. I begin by providing key findings from previous research that pertains to this level, and then discuss the relation between these findings and the findings from this study. In doing so, I make specific reference to the second sub-question of the research question posed in chapter 3, to do with relations, by addressing the role of the teachers' emotions for: (1) primary relations of space and time; (2) relations within the pedagogic context; and (3) relations between the pedagogic context and external context. Lastly, I address the expansion of the language of description for relations.

## 1. Primary Relations of Space and Time

In a study on the emotions of education and educational change, Hargreaves (2000) maps out ‘emotional geographies’ for high school teachers tracing their movements in time and through space. Hargreaves’ findings show that the high school classroom is marked by spatial and experiential distance due to the specialized organizational pattern of teaching. On account of the absence of relationships internal to the classroom, the teachers in Hargreaves’ study cite negative emotion experience. In contrast to his findings concerning the context of the classroom, Hargreaves’ findings show that the context outside of the classroom is marked by spatial and experiential intimacy for teachers, and in particular for the male teachers in his study. On account of the presence of relationships external to the classroom where the teacher and learners are able to see each other in a different light, the male teachers in Hargreaves’ study cite positive emotion experience.

In this study, I consider spatial and experiential patterns of closeness and distance by examining interactions, for a multilevel theory, between appraisals of value and primary relations of space and time. In line with Hargreaves’ findings, Julia’s high or low value ascriptions realize regulatory boundaries in space and punctuations in time, or seen differently, spatial and experiential patterns of intimacy *or* distance. In contrast to Hargreaves’ findings that show relationships are marked by intimacy external to the classroom, for example, the findings for Julia reveal teacher-learner relationships characterized by intimacy *or* distance within the context of the classroom. In terms of distance, she tends to position herself at the front of the classroom and frequently instructs the learners to place their eyes upon her. In terms of intimacy, she tends to gather the learners closely around her to perform a demonstration.

The findings for Lydia expand upon Hargreaves’ findings to show that a teacher’s practice may not be characterized by either spatial and experiential intimacy *or* distance, but rather degrees of spatial and experiential intimacy on account of the formulation of

high-low value ascriptions: She ‘breaks’ into the learners’ ‘territory’ and tends to continuously circulate during a lesson. She also continuously positions and repositions learners in the classroom permitting learners to sit together and separating learners who go off task. In the development of theory in this study, I have expanded the language of description to account for different types of movement in time and through space. I indicate recontextualization in which there is an alignment *or* disalignment to a space (i.e. spatial relations of intimacy *or* distance) as recontextualization (focus: macro level), and recontextualization in which there are degrees of alignment to a space (i.e. spatial relations of degrees of intimacy) as recontextualization (focus: micro level).

## 2. Internal Relations

Kress, Jewitt, Ogborn, and Tsatsarelis (2001) examine the material expression of science learners’ cognitively and affectively motivated choices. For a science learner’s multimodal report on plant cells (shown in *Figure 5.3.2-1* below) they evaluate the image as scientific, on account of its concern with regularity and sameness, and the written element as non-scientific due to the presence of the agent of action and expression of feelings. In terms of the layout of the text, they highlight an emerging notion of ‘scientificness’ from the learner’s separation of the image and writing through a solid horizontal line, i.e. the image is marked by strong classification and framing. In addition, they indicate an emerging notion of ‘scientificness’ from the learner’s use of the spatial dimensions of meaning-making: The learner presents the findings as ‘ideal’, and the process as ‘real’, in accordance with the theory of the polarized form of images, where the top of an image is glossed as ‘Ideal’ and the bottom as ‘Real’ (Kress and van Leeuwen, 1996).

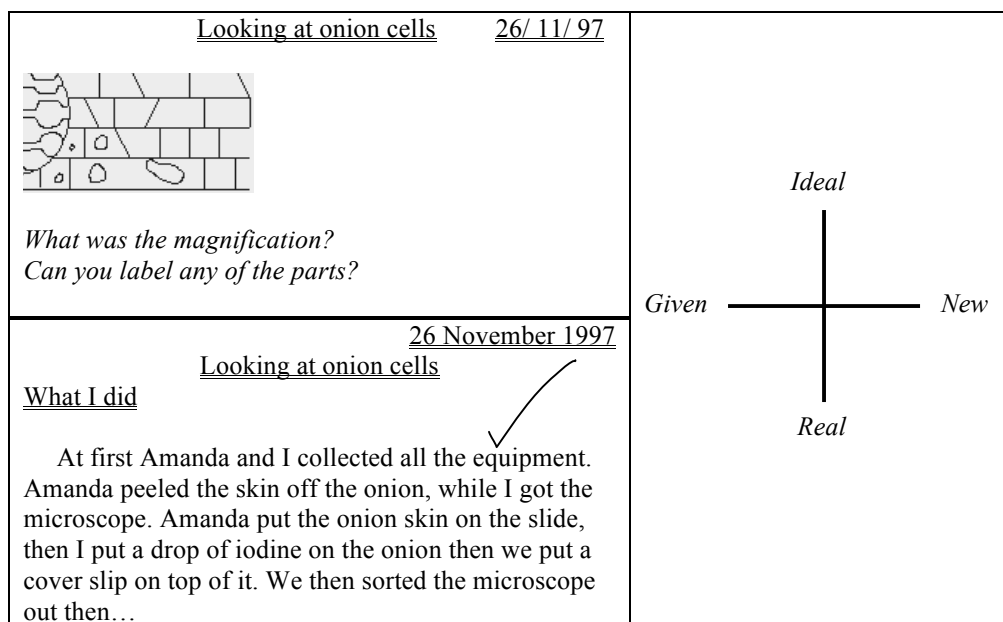
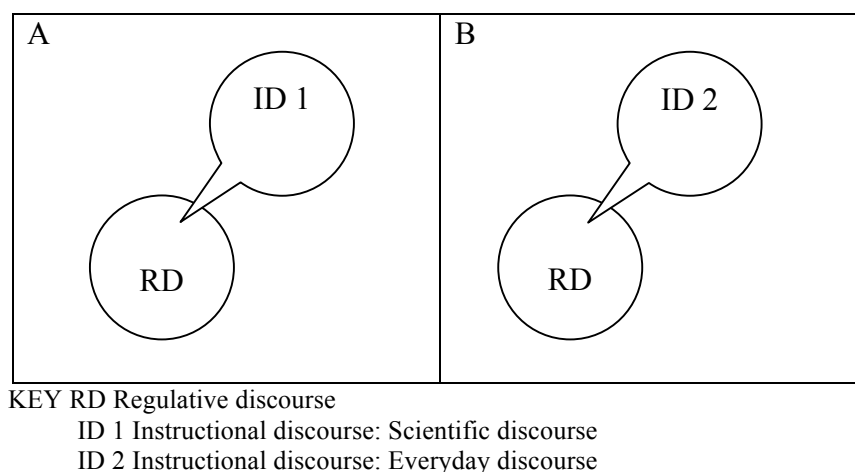


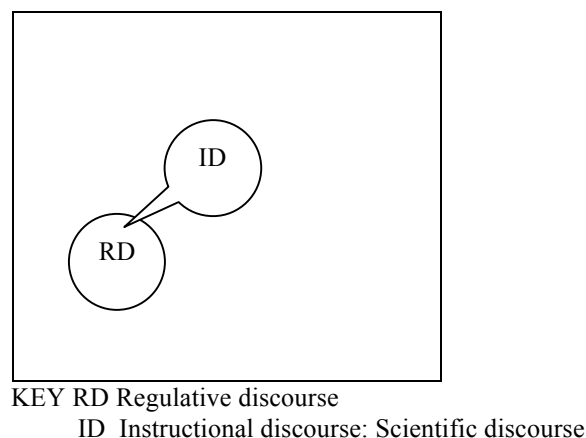
Figure 5.3.2-I A learner's text (Kress, Jewitt, Ogborn, & Tsatsarelis, 2001, p. 135)

In this study, I examine internal relations by looking at the interactions between the level of evaluation and relations for a multilevel theory. In line with Kress, Jewitt, Ogborn, and Tsatsarelis' findings, Julia formulates high or low value ascriptions concerning scientific discourse realizing relations marked by strong classification and framing. Her high value ascriptions are revealed when she instructs the learners to copy a scientific text verbatim by transferring the information over from the learners' instructions, on an assessment booklet, for the conclusion of a report. In contrast, her low value ascriptions are revealed when she refers to scientific discourse as 'flashy words' and instructs the learners to write in 'quite simple language' and to use their 'own language'. Julia's high value ascriptions realize an 'ideal' pedagogic subject in science that ascribes a high degree of worth to scientific discourse. I represent the selection, or non-selection, of scientific discourse using Martin and Rose's (2005) schematic representation of the 'informational' and 'affective' in the figure below. In *Figure 5.3.2-IIA* the language of description reveals the 'ideal' and masks the 'non-ideal'.



*Figure 5.3.2-II* The selection *or* non-selection of scientific discourse (Adapted from Martin & Rose, 2005, p. 271)

In contrast to Kress, Jewitt, Ogborn, and Tsatsarelis' findings, Lydia formulates high-low value ascriptions (i.e. appraisals that operate on a cline) concerning scientific discourse realizing relations marked by weak classification and framing. Her high-low value ascriptions concerning scientific discourse are revealed when she prompts her learners to use a 'good science word' in lieu of a less scientific one so that the transition between scientific and everyday discourse is a subtle, rather than gross, one. For example: She prompts a learner to use the word 'decrease' instead of 'smaller', and positively appraises the word 'decrease' as a 'good science word'. Lydia's high-low value ascriptions realize an 'ideal' pedagogic subject to varying degrees that ascribes a high-low degree of worth to scientific discourse. I represent the selection of scientific discourse to varying degrees by modifying Martin and Rose's (2005) schematic representation of the 'informational' and 'affective' as shown in the figure below. In *Figure 5.3.2-III* the language of description reveals the 'ideal-non-ideal', i.e. 'ideal' to varying degrees [Section 2.3.3].



*Figure 5.3.2-III* The selection of scientific discourse to varying degrees (Adapted from Martin & Rose, 2005, p. 271)

In order to open up models with regards to relations for a ‘non-linear’ model of emotion, it has been important to recognize not only typological analysis, but topological analysis as well. In the first instance, I have refined the language of description for ‘relations between’ and ‘within’ by indicating the manner in which strong classification and framing are associated with high or low value and ability ascriptions, and weak classification and framing are tied to high-low value and ability ascriptions. Secondly, I have extended upon the language of description for different elements to do with framing: As shown in *Figure 5.3.3-II* and *5.3.3-III* above, I highlight the manner in which the *selection of communication* can involve either a high or low degree of selection, or varying degrees of selection. I indicate two types of *sequencing* by drawing upon Bandura’s (1978) notion of a “unidirectional causal model” and “model of reciprocal determinism” (p. 344). I also distinguish two types of *evaluation* by drawing upon Wranik, Feldman Barrett, and Salovey’s (2007) construct of processing emotional information at a general and specific level.



### 3. External Relations

A strong theme for research on teachers' emotions is a commitment to caring (Osborn, 1996): Lortie's (1975) sociological study of the daily life of teachers shows that teachers deemed to be "outstanding" by their colleagues are those who generate "affection or respect or both" (p. 118). Amongst the "special, personal concerns" of the teachers in his study is the "connecting function" of teachers who instill a love of school, or a specific subject, in all of their learners (p. 111). Hargreaves' (1998a) research on the emotions of education and educational change illustrates that caring is not only particular to the female teachers in his study, but the male teachers as well. It also reveals that "the caring orientation of teachers always make them somewhat guilt-prone" (Hargreaves, 1998b, p. 322). Golby's (1996) study of the pedagogic practice of two late-career teachers, Ella and Josie, finds that they exhibit a "profound commitment" to their learners and gain "considerable emotional security" (p. 1) from them: They foster proprietorial relationships with their learners and consider other teachers as "intruding" on their "special relationship" with their class (Golby, 1996, p. 10).

In this study, I examine external relations by looking at the interactions between the level of evaluation and relations for a multilevel theory. In agreement with the findings for the abovementioned studies, Julia formulates high value ascriptions concerning rapport in A (i.e. the science classroom) realizing external relations marked by strong classification and framing. She communicates her feelings of 'love' to the learners and aims to build a classroom that is an 'emotionally safe' place. In line with Golby's (1996) findings, she fosters a proprietorial relationship with her learners and relays feeling 'upset' by teachers who 'yell' at the learners. She communicates her trust in the learners to them, and in keeping with Hargreaves' (1998b) findings, ascribes importance to moral behaviour through an emphasis on guilt. The findings for Julia also expand upon findings for the abovementioned studies by recognizing inconsistent semantic choices that appear to emerge from a weakening in the classification. Julia ascribes a low degree of worth to feelings of 'love' and describes the expression of her feelings of 'love' as 'flippant'. In

portraying the expression of her feelings accordingly, her feelings may be seen to be lacking in authenticity.

In contrast to Golby's (1996) findings Lydia formulates high-low value ascriptions concerning rapport in A (i.e. the science classroom) realizing external relations marked by weak classification and framing. Lydia constructs the community internal and external to the classroom as one of love, trust and security: She ascribes importance to teacher-learner and peer-peer relationships, as well as her and the learners' relationships external to the classroom. She appraises the classroom to be both safe and unsafe and as a result tries to regulate her learners' feelings by finding a safe space for them where they feel 'happy and safe' because those around them offer assistance. She also describes her relationship with the learners both internal and external to the classroom as one of trust. In contrast to Hargreaves' (1998b) findings Lydia ascribes a low degree of value to feelings of guilt and sees little place for feelings of guilt in the classroom. Her construction of the classroom accordingly brings 'solidarity' to the fore. This is most apparent from her description of her classroom as 'grand central station': Julia, the ESOL teacher, the laboratory technician, a student teacher and the teacher aide all spent time in the classroom during the study.

The findings for Julia's high or low value ascriptions, and Lydia's high-low value ascriptions, concerning rapport in A are supported through interactional reliability for the levels of mastery, rapport, performance and holism enabling cross-validation and cumulative evidence building. Julia's high or low value ascriptions for rapport in A, for example, appear to reveal emotion regulation through suppression resulting in a dislocation between the 'inner' and 'outer' at an individual and social level. In line with the findings for chronic suppressors in 2.3.2 these findings are supported by her: (1) Lesser recorded positive emotion experience; (2) Lesser positive emotion expression; (3) Low degree of emotional awareness; and (4) Emphasis on 'distance'. Lydia's high-low value ascriptions appear to reveal emotion regulation, or generation, through reappraisal (focus: micro level) resulting in the synthesis of different kinds of representation at an individual and social level. In line with the findings for chronic reappraisers in 2.3.2 these

findings are supported by her: (1) Greater recorded positive emotion experience; (2) Greater positive emotion expression; (3) High degree of emotional awareness; and (4) Emphasis on ‘intimacy’. These findings are also supported by Julia and Lydia’s articulation of their use of suppression and reappraisal, respectively.

Hargreaves (2000) examines high school teachers’ emotion experience, emotion expression, teacher-learner interactions and evaluation of emotions: For emotion experience, the teachers in his study report negative emotion more often than positive emotion for academic issues of classroom learning. Instead of the teachers’ “emotional rewards” (Hargreaves, 2000, p. 823) coming from within the classroom, most of the teachers’ rewards are derived from their relationship with learners outside of this context. For emotion expression, Hargreaves’ (2000) findings show that the teachers perceive the high school classroom as lacking in emotional intensity, leading him to conclude that high schools, although not “emotional deserts”, are “more affectively arid” than primary schools (p. 824). For teacher-learner interactions, the teachers in his study establish “distant” emotional connections with their learners, and indicate that they “often feel not known by their students” (Hargreaves, 2000, p. 821). For the evaluation of emotions, Hargreaves’ (2000) study reveals that the teachers appraise emotions as “dangerous and disturbing influences” and “hardly” mention redesigning classroom life and learning to build positive learner emotion (p. 823).

In this study, the findings for Julia largely accord with Hargreaves’ findings albeit with a few notable exceptions. For emotion experience, Julia documents negative emotions for eight out of fifteen diary entries. The most poignant entry is one in which she records feeling ‘flat’, and articulates further that she felt as if she couldn’t be ‘bothered’ to come into work that day [EDEj]. For emotion expression, she reports that she ‘often’ hides positive or negative emotions, and that she ‘fakes a lot of outward stuff’ in the classroom. For specific feelings, such as ‘frustration’, her description of her emotion-expressive behaviour indicates a low degree of expressivity in line with Hargreaves’ findings. For other feelings, however, such as ‘pleasure’, her description of her emotion-expressive behaviour indicates a high degree of expressivity. For teacher-learner interactions, Julia

places an emphasis on ‘distance’ through her construction of herself as the ‘adult’ and the learner as ‘child’. For the evaluation of emotions, she formulates low value ascriptions concerning feelings and displays a low degree of emotional awareness. Her lack of engagement in voluntary regulatory activity appears to be aided by her construction of emotions as: natural, unintentional, uncontrollable, private and elusive (*Figure 5.3.2-IV*).

<i>Theorization of emotion (Lutz, 1986)</i>	<i>Emotion</i>	<i>Emotion and emotional talk</i>
natural	confidence	‘I suppose they get to be confident a little bit naturally some of them.’ [ITd70]
unintentional	pride	‘I think that pride is one of those lovely unexpected things when things are going well.’ [ITd82]
uncontrollable	frustration	‘When she’s got to that space where she’s frustrated, she just can’t handle it, and she can’t let me help her.’ [ITc80]
private	sadness	‘I didn’t want to make a big deal of it in front of the class in case it was personal for the girl.’ [EDEo]
elusive	anger	‘They say a lot of things in the heat of the moment which are gone as quickly as they’re said.’ [ITb115]

*Figure 5.3.2-IV* Theorizations of specific emotions for Julia

The findings for Lydia expand upon the findings for Julia by providing differences between persons. For emotion experience, Lydia records negative emotions for four out of fourteen diary entries, and for emotion expression, her description of her emotion-expressive behaviour indicates a high-low degree of expressivity. For interactions with others, Lydia places an emphasis on ‘intimacy’ through her disregard for the portrayal of the teacher as ‘adult’ and the learner as ‘child’. In addition, she brings ‘intimacy’ to the fore by inviting adults into the classroom to talk science to the learners, model appropriate behaviour, and teach the learners to ‘think differently’. For the evaluation of emotions, Lydia formulates high value ascriptions concerning feelings and displays a high degree of emotional awareness. In terms of her own feelings, she does not articulate difficulty in the recording of her feelings, nor request additional assistance. In terms of her learners’ feelings, her attentiveness towards the learners’ feelings appears to be evident from her recognition of feelings marked by a high-low degree of expressivity. In contrast to Hargreaves’ findings, the findings from this study show that Lydia puts effort into redesigning classroom life to build positive learner emotion. For example: She

checks the learners' uniforms as they enter the classroom to gauge how each learner is feeling.

In sum, the findings for relations coincide with and expand upon the findings for the previous studies outlined on teachers' emotions. Most notably, a two-way process of analysis between theory and data in this study revealed the importance of recognizing the unity of 'inner' and 'outer' semiotic practices. An examination of 'inner' and 'outer' semiotic practices reveals inconsistent semantic choices for Julia, and a study of 'inner' and 'outer' semiotic practices reveals the presence of focal attention for Lydia whose operation synthesizes different kinds of representation. I have extended the language of description to distinguish different types of relations more precisely. For example: I describe degrees of movement in time and through space as recontextualization (focus: micro level).

### **5.3.3 Research Findings: The Pedagogic Subject**

In 5.3.3 I analyze the findings for this study by drawing upon the level of subjectivity for the multilevel theory outlined in chapter 2. I begin by providing key findings from previous research that pertains to this level, and then discuss the relation between these findings and the findings from this study. In doing so, I make specific reference to the third sub-question of the research question posed in chapter 3, to do with subjectivity, by addressing the role of the teachers' emotions for: (1) the teacher's experience of enhancement, inclusion and participation; and (2) the learners' experience of enhancement, inclusion and participation. Lastly, I address the expansion of the language of description for subjectivity.

#### **1. Pedagogic Communication: The Teachers**

A central theme in research on teachers' emotions is the pedagogic practice as an "emotional regime" (Zembylas, 2005a, p. 474) that involves powerful commitments,

strong values, exhilarating successes and depressing failures (Lazarus, Kanner, & Folkman, 1980). In Nias' (1989) study of the emotional relationship of primary school teachers with their work, the teachers merge their personal and professional lives, and the school becomes a main site for self-esteem and fulfillment. Hayes' (1996) study on emotions in primary school headship reveals that the headteachers invest heavily in their work and "[feel] good about themselves only when they [do] everything well" (p. 7). They try to hide their declining idealism when they find they are unable to meet all the demands of the job, and strive to preserve their image in the eyes of others. In Zembylas' (2004c) in-depth ethnographic study of a primary school teacher, Catherine, a sense of worthlessness and powerlessness is experienced by Catherine on account of her colleagues' disapproval of her use of progressive pedagogies. She withdraws from communicating with most staff members and manages appearances by denying deviant emotions. In research on emotions in reform, the teachers in Kelchtermans' (1996) study experience heightened emotionality when educational change threatens valued working conditions. To protect and restore deeply held beliefs and values they engage in micropolitical actions of resistance.

In this study, I examine the building of the pedagogic communication by looking at the interactions between the level evaluation and subjectivity for a multilevel theory. Julia foregrounds the emotional practice as 'arena' through her favouring of high or low ability ascriptions. She formulates low ability ascriptions concerning: (1) teaching concepts in physics; (2) assisting a learner to control her anger outbursts; (3) equipping the learners to achieve; and (4) teaching the learners skills for everyday life. In terms of teaching concepts in physics, Julia expresses doubt as to whether or not she has been 'good enough' as a teacher when she mixes up the terms 'insulation' and 'resistance', in line with the headteachers in Hayes' (1996) study who "felt good about themselves only when they did everything well" (p. 7). Julia's high or low ability ascriptions realize a pedagogic communication that acts on the 'meaning potential' in a contractive manner. She: (1) vents in the teachers' workroom expressing a strong dislike of physics [FNc]; (2) exhibits tentative behaviour towards the learner who displays anger; (3) directs the learners' attention away from an internal attribution of ability; and (4) selects to teach at primary

school following her resignation. In terms of choosing to teach at primary school, Julia regulates her feelings through ‘situation selection’ so that the primary school, rather than the high school, is brought into focus, in line with the teachers in Nias’ (1996) study in which the school is a main site for self-esteem.

The findings for Lydia expand upon the findings for the abovementioned studies on account of the manner in which she foregrounds the emotional practice as ‘community’ through her favouring of high-low ability ascriptions. She formulates high-low ability ascriptions concerning: (1) modifying staff members’ low ability ascriptions with regards to the lower band learners; (2) teaching the learners to behave appropriately towards others; (3) equipping the lower band learners to do physics; and (4) exhibiting playful behaviour in the science classroom. In terms of her own ability to do physics, Lydia articulates that she understands physics in ‘little pieces’, in contrast to the headteachers in Hayes’ (1996) study who “felt good about themselves only when they did everything well” (p. 7). Lydia’s high-low ability ascriptions realize a pedagogic communication that acts on the ‘meaning potential’ in an expansive manner. She: (1) prompts staff members to appraise the lower band learners positively; (2) invites adults into the classroom to model appropriate behaviour; (3) does additional coursework aimed at equipping low achieving learners; and (4) uses an instructional method in which she draws upon the learners’ benches using a marker pen. Unlike Julia’s high ability ascriptions that realize an ‘ideal’ pedagogic subject marked by structure, Lydia’s high-low ability ascriptions realize an ‘ideal’ pedagogic subject to varying degrees that is characterized by process.

In the development of theory in this study it has been important to extend upon and refine the language of description in order to distinguish more clearly between a pedagogic practice that brings ‘power’ to the fore, and one that foregrounds ‘solidarity’. This is important as it is not always apparent whether a model favours ‘power’ or ‘solidarity’, ‘structure’ or ‘process’. For example: Christie (2002) refers to Bernstein’s (2000) model as a theory of cultural production, reproduction and change, whereas Lemke (1995) refers to Bernstein’s (2000) model as a theory of cultural production and reproduction, rather than change. In the first instance, I distinguish between two types of emotional practices

by referring to one that brings ‘power’ to the fore as an “emotional regime” (Zembylas, 2005a, p. 474), and one that foregrounds ‘solidarity’ as an ‘emotional community’. I also extend upon Zembylas’ (2002) tri-stratal theory of emotions by outlining a level that concerns the “political” (p. 84), as well as one that concerns the communal. For the former level I indicate the emphasis given to opportunities or constraints for enhancement, inclusion and participation, and for the latter the importance ascribed to graded opportunities for enhancement, inclusion and participation. Lastly, I draw upon the notion of “structure” and “process” (Lazarus, 1999, p. 13) to distinguish between two types of models of emotion by indicating the manner in which one brings ‘stability’ to the fore, and the other foregrounds ‘change’.

## **2. Pedagogic Communication: The Learners**

Bourne (2006) and Kress, Jewitt, Bourne, Franks, Hardcastle, Jones, and Reid (2005) examine the social construction of differential levels of ‘ability’ through teacher-learner interaction from a multimodal perspective. They draw upon data from the first major study of school subject English in England, since educational reforms in the 1990s and the introduction of a national curriculum, referred to as *The Production of School English Project*. Their findings show strong differences in specific teacher behaviours towards high and low achieving learners for all nine of the teachers involved in the project from three multiethnic schools. In streamed schools, the teachers formulate low ability ascriptions for the ‘low ability group’ and high ability ascriptions for the ‘top ability group’: For a ‘bottom’ stream Year 10 English class, the teacher closes down the space for discussion, whereas for a ‘higher ability’ Year 10 English class in the same school, the teacher provides challenging tasks that promote discussion (Bourne, 2006). In ‘mixed ability’ schools, a detailed analysis of the pedagogic practice of one teacher too reveals strong differences in specific teacher behaviours towards those seen as of ‘high’ or ‘low’ ability: For the perceived ‘low’ ability group, the teacher is formal and asks direct questions pertaining to vocabulary, whereas for the perceived ‘high’ ability group the teacher assumes a more relaxed posture and encourages multiple interpretations of a text (Kress, Jewitt, Bourne, Franks, Hardcastle, Jones, & Reid, 2005).



In this study, I examine the building of the pedagogic communication for the learners by looking at the interactions between the level of evaluation and subjectivity for a multilevel theory. In line with the findings for the abovementioned studies, Julia tends to formulate high or low ability ascriptions. In terms of the pedagogic communication, her high or low ability ascriptions realize a language of description that involves: (1) the ‘performance’ of an ideal (comparative orientation); (2) the explicit communication of the recognition and realization rule for the ideal (explicit criteria); and (3) the positive *or* negative appraisal of the learners’ behaviour (general level). In terms of the social construction of ‘ability’ for a learner, her high ability ascriptions concerning Jackie provide opportunities for: (1) enhancement through the alignment of Jackie into formulating high ability ascriptions; (2) inclusion through the direction of her attention towards Jackie; and (3) participation through the appointment of Jackie as ‘class leader’. The findings for Julia also expand upon the findings for the abovementioned studies by recognizing opportunities or constraints for enhancement, inclusion and participation, on account of the positive or negative appraisal of the learners’ behaviour, for activities to do with competence as well as rapport.

In contrast to the teachers in the abovementioned studies who favour the formulation of high or low ability ascriptions, Lydia favours high-low ability ascriptions in her appraisal of the lower band learners’ control. In terms of the pedagogic communication, her high-low ability ascriptions realize a language of description that involves: (1) lengthy communication on an individual basis (individualistic orientation); (2) the implicit communication of the recognition and realization rule for the ideal (i.e. implicit criteria); and (3) the positive *and* negative appraisal of the learners’ behaviour (specific level). In terms of the social construction of ‘ability’ for a learner, her high-low ability ascriptions concerning a learner, who gives up trying following a period of absenteeism, provide graded opportunities for: (1) enhancement through placing emphasis on ‘getting there’ rather than being either successful or unsuccessful in the unit test; (2) inclusion through the provision of assistance to the learner; and (3) participation through equipping the learner with strategies, such as moving closer to the front of the classroom, to deal with

obstacles. In the development of theory in this study I have expanded the language of description to include topological analysis, i.e. the formulation of high-low ability ascriptions, in order to maintain the integrity of the object.

In sum, the findings for subjectivity coincide with and expand upon the findings for the previous studies outlined on teachers' emotions. Most notably, a two-way process of analysis between theory and data in this study revealed the importance of activities pertaining to competence, achievement, connection and balance. An examination of these categories for Julia reveals the formulation of low ability ascriptions and an engagement in emotion-focused coping, whereas a study of these categories for Lydia shows the formulation of high-low ability ascriptions and an engagement in problem-focused coping. I have extended the language of description to distinguish different types of subjectivity more precisely. For example: I describe an emotional practice that foregrounds 'solidarity' as an 'emotional community'.

In 5.3 I outlined the research findings for this study and contributions of the thesis towards the development of theory on teachers' emotions. In brief, the findings for this study show Julia favours high or low value and ability ascriptions, pedagogic relations marked by strong classification and framing and a pedagogic subject that concerns 'power'. Lydia favours high-low value and ability ascriptions, pedagogic relations marked by weak classification and framing and a pedagogic subject that concerns 'solidarity'. In the development of theory I have placed emphasis on the synthesis of different descriptive and classificatory systems to maintain the integrity of the teachers and to give insight into issues of social and practical relevance, such as the teachers' high or low degree of attentiveness towards their own feelings, as well as their learners' feelings.

## 5.4 Concluding Statements and Future Directions for Research

[LTx48-51]

<i>x</i>	48	Eadith: Miss...I looked up at the sky at break, and I was like, aha, are we really [unclear] [a part of] the rest of the universe? How do we know that we're not just in someone's mind? So, if like, I got, stepped out of control...how would it effect?...Because, wouldn't it just be like in someone's subconscious, or something? How would we know we're not just being imagined right now? And it's freaking me out.
<i>x</i>	49	T: Let's just.
<i>x</i>	50	Eadith: I don't know if I'm here or not.
<i>x</i>	51	T: You are Eadith, believe me, you're with me. Right, so we have three quantities now onto your little [speed distance time] triangle.

Eadith outlines two 'worlds', an 'inner' world and an 'outer' one, in the teacher-learner interaction above. Whereas the 'outer' world is tied to behaviour that involves expansiveness, the 'inner' world is associated with behaviour that is out of control.

Eadith questions whether she is a part of the 'outer' world, and if her actions would have any effect if she was a part of the 'inner' world. In response, Lydia reassures Eadith of her presence in the classroom by telling her that she is *with* her. This study has shown though that for a learner to be with a teacher, or for a teacher to be with a learner, can have different *meanings* for one teacher in relation to another. I have sought to make these meanings explicit in this study.

For Julia, the emotional principle that informs behaviour and shapes ways of feeling involves, from a dialogic perspective, an alignment or disalignment with regards to alternative socio-semiotic positions. It realizes relations marked by strong classification and framing. It involves an emotional practice in science characterized by power that presents opportunities or constraints for enhancement, inclusion and participation. In contrast, for Lydia, the emotional principle involves an alignment to varying degrees with regards to alternative socio-semiotic positions. It brings about relations marked by weak classification and framing. It involves an emotional practice in science characterized by solidarity that presents graded opportunities for enhancement, inclusion and participation.

In order to get at the principles that shape Julia and Lydia's feelings, I adopt theories, strategies and methods in this study that place an emphasis upon *synthesis*. Synthesis is a core strength of this study that recognizes the unity of 'inner' and 'outer' semiotic practices. It enables the bringing together of different descriptive and classificatory systems, as well as the synthesis of various categories including competence, achievement, connection and balance to create new opportunities for research. The approach to the theory and data in this study can be likened to Lydia's relationship with her learners. She directs her attention towards her learners' affairs internal and external to the classroom. She focuses upon on the 'little things', and notices 'everything':

As they come in the door, that's one of the reasons I check uniform, because then I know instantly by the response what they're feeling like today, and you get a really good idea if they're rushed, or they're hassled, or they've had a barney with another staff member...I try and find out those little things before class happens...That's part of my sales pitch [that] I actually know, I notice, I care. And they laugh that I notice everything. [ITi84]

A limitation of the approach to the theory and data in this study derives directly from this core strength. An emphasis on multiple levels for a multilevel theory, rather than a select number of levels, meant that I was unable to pursue certain findings of interest that arose in the data interpretation and analysis. Focusing upon a level for the framework would enable further exploration of those aspects that pertain to that level. An emphasis upon the component parts of a framework, rather than the whole, can be likened to Julia's relationship with her learners. Instead of directing her attention towards all of the learners, she selects learners to put time and energy into. The difference between the two approaches is not the amount of resources involved, but the distribution thereof:

One thing that I decided in my first year of teaching, was that there's just not enough time to care about all the students. And I know in my first year teaching I almost picked what students I was going to care about, and put time and energy into. Because there just wasn't time to do that for all of them, and I don't think that I'm as consciously aware of that now. [ITa130]

Areas for future research on teachers' emotions are evident from an account of those aspects that are addressed for the different levels of the multilevel theory outlined in this

study, and those that are not. For the emotional principle, I examine in this study the manner in which Julia and Lydia invite their lower band Year 10 learners to share similar feelings, tastes and norms. I do not look at teacher-learner interaction for male teachers and learners, different year levels at high school and ‘mixed ability’ classes. I also do not look at the interaction between teachers in-depth. Future studies will play a role in outlining the relation between the findings for this study and findings that pertain to different groups of participants. They could also examine in-depth the manner in which teachers with different emotion philosophies work together.

For primary relations, I map out ‘emotional geographies’ by tracing the teachers and learners’ bodily movements in time and through space. I do not look at specific ways in which a teacher either demarcates space, or doesn’t, in the classroom. For example: For an experiment that involves dropping a parachute from a specified height [Section 3.5.1], Julia instructs the learners to make a mark on the wall using cellotape from which to drop their parachutes [LTu321]. In contrast, Lydia tells the learners to line their parachutes up with a preexisting feature on the wall, such as a poster [LTxxi89]. It would be of interest in future studies to investigate the various ways in which a teacher (in relation to another teacher) either punctuates space, or doesn’t, and prompts her learners to do likewise.

For external relations, I consider a teacher’s value ascriptions concerning love, trust and security in developing a proprietorial, or non-proprietorial, relationship with her learners. In future studies, researchers may wish to examine other specific feelings that concern social phenomena as well, such as envy, scorn, sympathy and gratitude (Weiner, 2007). I also look at a teachers’ value ascriptions concerning feelings of guilt. The findings for this study show that whereas Julia sees a place for feelings of guilt in the classroom, Lydia considers that feelings of guilt belong outside of the classroom. Further empirical research is needed to determine whether or not specific feelings, such as guilt, are particular to a practice marked by strong or weak classification and framing.

For different emotion regulation strategies, I examine a teacher’s emotion experience, emotion expression, efficacy, emotional awareness and interactions with others. In order

to do so I draw upon multiple measures including the analysis of classroom interaction, emotion diary entries, meta-emotion and semi-structured interviews and a journal. In line with Gross and John (2003) researchers may wish to examine peer reports as well in future studies. A peer report may provide insight into teachers' emotions by asking questions such as: How do a teacher's colleagues rate the extent to which a teacher expresses positive or negative emotions? Do they notice a teacher's efforts at suppression? How do they appraise the emotional intimacy of a teacher? Do they feel as if they know where they stand with a teacher?

For subjectivity, I look at a teacher's formulation of ability ascriptions through her adoption or rejection of the description of the teacher as 'adult' and the learner as 'child'. A broad range of materials though could potentially be used to study the manner in which prototypes of subjectivity are built into cultural semiotic systems (Lemke, 1995). For example: In the study, Julia describes the act of planting trees – of digging one's hands into the earth – as powerful. Having recently acquired land she relays her desire to plant trees, tend after them and watch them grow [FNj]. Metaphorically, the imagery appears to reveal much about her emotional practice – a pedagogic practice that is underpinned by strong feelings of love, care and nurture. In line with Zembylas (2007c), future studies may wish to seek interpretations from materials including childhood memories, dreams and myths in research on teachers' emotions.

In sum, this study has revealed intriguing findings concerning the implications of different emotion regulatory principles, for multiple levels of pedagogic practice, from the strength of feelings involved to the attentiveness of a teacher towards day-to-day feelings. In addition, it has expanded the potential for research into teachers' emotions through the synthesis of different descriptive and classificatory systems, and categories. Future studies could examine teachers' different emotion philosophies concerning specific emotions not considered in this study (e.g., sympathy), as well as different ways in which prototypes of subjectivity are built into the semantics of language in the classroom. Exciting opportunities for research into emotion lie ahead that will sharpen

our understanding of the relative costs and benefits of different models of emotion and enable teachers to develop ‘conscientious’ philosophies of emotion.

## APPENDIX A: GLOSSARY

<b><i>‘Action-control’ expectancies</i></b>	Causes of success that are internal.	Section 2.2.1
<b><i>‘Action-outcome’ expectancies</i></b>	Causes of success that are external.	Section 2.2.1
<b><i>Antecedent-focused emotion regulation strategies</i></b>	Emotion regulation strategies oriented at those stages in the emotion process before an emotion becomes fully activated.	Section 2.3.2
<b><i>Attentional deployment</i></b>	The focusing of attention towards people, places and objects.	Section 2.3.2
<b><i>‘Axiological’ emotional principle</i></b>	An emotional principle that involves the specific processing of emotional information.	Section 2.2.1
<b><i>Classification</i></b>	A construct for the analysis of ‘relations <i>between</i> ’ categories.	Section 2.3.1
<b><i>Cognitive change</i></b>	Altering an appraisal of value, or control, concerning an activity.	Section 2.3.2
<b><i>Dialogically contractive</i></b>	A construct used to indicate the manner in which the pedagogic communication acts on the meaning potential in an enhancing <i>or</i> restricting manner.	Section 2.1.2
<b><i>Dialogically expansive</i></b>	A construct used to indicate the manner in which the pedagogic communication acts on the meaning potential in an enhancing <i>and</i> restricting manner.	Section 2.1.2



<b><i>Ego-defensive coping</i></b>	Strategies targeted at the regulation of negative emotional reactions to a stressor.	Section 2.3.2
<b><i>Emotional awareness</i></b>	A construct involving focal attention whose operation synthesizes different kinds of representation.	Section 2.3.2
<b><i>‘Emotional geographies’</i></b>	Patterns of closeness and/ or distance in human interactions that are spatial and experiential.	Section 2.3.1
<b><i>Emotional principle</i></b>	An emotion regulatory principle that influences which emotions individuals have, when they have them, and how they express them.	Section 2.1
<b><i>Emotion-focused coping</i></b>	<i>See</i> ego-defensive coping.	Section 2.3.2
<b><i>Explicit criteria</i></b>	Refers to that feature of the language of description that concerns explicit recognition and realization rules for the ‘ideal’ text.	Section 2.3.3
<b><i>External value of classification and framing</i></b>	Classification and framing to do with relations between the pedagogic context, and context external to it.	Section 2.3.1
<b><i>Framing</i></b>	A construct for the analysis of ‘relations <i>within</i> ’, where the ‘within’ in ‘relations within’ may translate into an agent, agency, discourse or practice.	Section 2.3.1
<b><i>[Constructing] genealogies of emotions</i></b>	<i>See</i> historicizing emotions.	Section 2.4.3
<b><i>General level</i></b>	Refers to that aspect of the language of description that pertains to the processing of emotional at a general level.	Section 2.3.3

<b><i>Historicizing emotions</i></b>	Examining discourses on emotion over time to investigate if and how they have changed.	Section 2.4.3
<b><i>‘Ideological’ emotional principle</i></b>	An emotional principle that involves the general processing of emotional information.	Section 2.2.1
<b><i>Implicit criteria</i></b>	Refers to that feature of the language of description that concerns implicit recognition and realization rules for the ‘ideal’ text.	Section 2.3.3
<b><i>Individualistic orientation</i></b>	Refers to that feature of the language of description that involves the specific processing of emotional information with respect to an ‘ideal’ text.	Section 2.3.3
<b><i>Internal value of classification and framing</i></b>	Classification and framing to do with relations within the pedagogic context.	Section 2.3.1
<b><i>‘Linear’ model of emotion</i></b>	A model of emotion underpinned by an ‘ideological’ emotional principle that concerns vertical relations.	Section 2.1.4
<b><i>Locus of control</i></b>	Contrasts causes of success that are internal versus external to an individual.	Section 2.2.1
<b><i>Multicomponential model of emotions</i></b>	A model that outlines emotions as complex processes consisting of components, such as appraisal, subjective experience, emotional expression.	Section 2.2.1
<b><i>‘Non-linear’ model of emotion</i></b>	A model of emotion underpinned by an ‘axiological’ emotional principle that concerns horizontal relations.	Section 2.1.4
<b><i>Pedagogic communication</i></b>	A conceptualization of language that considers language to operate simultaneously at a descriptive and evaluative level.	Section 2.1.1

<b><i>Pedagogic meaning potential</i></b>	The potential discourse that is available for transmission and acquisition.	Section 2.4.1
<b><i>Pedagogic subject</i></b>	That subjectivity that is shaped through an engagement with alternative socio-semiotic positions.	Section 2.4.1
<b><i>Personal control</i></b>	A judgement of controllability that depends upon ‘action-control’ and ‘action-outcome’ expectancies.	Section 2.2.1
<b><i>Power</i></b>	Concerns who gets to express and who must suppress various feelings.	Section 2.1.3
<b><i>Problem-focused coping</i></b>	Strategies targeted at altering the stressor.	Section 2.3.2
<b><i>Process</i></b>	Change.	Section 2.4.3
<b><i>Realization rule</i></b>	A rule that is oriented towards the creation of meanings.	Section 2.3.1
<b><i>Reappraisal</i></b>	An antecedent-focused emotion regulation strategy that involves cognitive change.	Section 2.3.2
<b><i>(Re)appraisal (focus: macro level)</i></b>	The processing of emotional information at a general level where initial appraisal and cognitive change are deemed to be subject to the same forces.	Section 2.3.2
<b><i>(Re)appraisal (focus: micro level)</i></b>	The processing of emotional information at a specific level where initial appraisal and cognitive change are deemed to be subject to the same forces.	Section 2.3.2

<b><i>Recognition rule</i></b>	A rule that is oriented towards the relevance of meanings.	Section 2.3.1
<b><i>Recontextualization</i></b>	The movement of a discourse from an ‘original site’ to a ‘new positioning’.	Section 2.3.1
<b><i>Recontextualization (focus: macro level)</i></b>	The movement of a discourse that involves alignment <i>or</i> disalignment with regards to the ‘original site’.	Section 2.3.1
<b><i>Recontextualization (focus: micro level)</i></b>	The movement of a discourse that involves degrees of alignment with regards to the ‘original site’.	Section 2.3.1
<b><i>Response-focused emotion regulation strategies</i></b>	Emotion regulation strategies oriented at the stage of the emotion response.	Section 2.3.2
<b><i>Response modulation</i></b>	The modulation of physiological, behavioural and experiential emotion responses.	Section 2.3.2
<b><i>Situation modification</i></b>	Active efforts to directly alter an activity.	Section 2.3.2
<b><i>Situation selection</i></b>	Aligning to, or disaligning from, people, places and objects.	Section 2.3.2
<b><i>Social comparative orientation</i></b>	Refers to that feature of the language of description that involves the general processing of emotional information with respect to an ‘ideal’ text.	Section 2.3.3
<b><i>Solidarity</i></b>	Concerns the negotiation of degrees of intimacy and distance.	Section 2.1.3

<b><i>Specific level</i></b>	Refers to that aspect of the language of description that pertains to the processing of emotional information at a specific level.	Section 2.3.3
<b><i>Structure</i></b>	Stability.	Section 2.4.3
<b><i>Subjectivity</i></b>	The means by which meaning systems of a culture are learnt by social subjects.	Section 2.4.1
<b><i>Suppression</i></b>	A response-focused emotion regulation strategy that involves the regulation of emotion-expressive behaviour.	Section 2.3.2

**APPENDIX B: LETTER OF PERMISSION (TEACHER)**



University of Canterbury  
College of Education  
Dovedale Avenue  
Christchurch  
8140

[Date]

Dear [name]

You are invited to participate in a research project on the role of a teacher's emotions in teaching and learning science. The aim of this project is to learn more about the emotional practice of teaching, and to find out how the teacher and learners negotiate a community of shared values in the science classroom.

If you agree to participate, your involvement in this project will include participation in the study, as well as a preliminary study. You have the right to withdraw from the project at any time, including withdrawal of any information provided. The preliminary study will involve the principal researcher observing and videorecording four consecutive lessons. During the preliminary study, you will be asked to complete two entries in an emotion diary (*please find attached emotion diary*).

The study will involve the principal researcher observing and videorecording a complete unit of work over a 5 – 6 week period. During the study, you will be asked to complete two entries per week in the emotion diary. Three to four weeks following the observation of the unit of work, you will also be invited to participate in four 1-hour interviews on the role of emotions in teaching and learning science. This might include one interview per week, over a four week period, at a time that suits you best (*please find attached interview sheets*).

Due to the commitment the study involves on behalf of the teacher, the researcher is more than willing to assist you in certain agreed upon day-to-day tasks, such as photocopying, in order to lighten your workload during the duration of the study. During the study, I will ask you for feedback on the conclusions drawn from the data. Furthermore, I will make the findings for the study available to you on completion.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation. To ensure confidentiality and anonymity, all names and identifying details in any verbal, written or published reports will be code-named. Code-named videotapes and observation sheets will be removed at the end of an observation session and stored in a locked filing cabinet in the research office at the university. This data will only be accessible to the principal researcher. All recorded data will be destroyed after a 5 year period, the standard period of time to retain research data.

The project is being carried out as a requirement for the degree of Doctor of Philosophy in Education by Wesley Gray, under supervision of Dr. Lindsey Conner and Dr. Veronica O'Toole. Should you have any concerns or questions about the project, please do not hesitate to contact me at [telephone number], or my supervisors Dr. Lindsey Conner and Dr. Veronica O'Toole, on [telephone number], or [telephone number].

Sincerely

Wesley Gray

## APPENDIX B: CONSENT FORM (TEACHER)



University of Canterbury  
College of Education  
Dovedale Avenue  
Christchurch  
8140

[Date]

### CONSENT FORM

*Project on the role of a teacher's emotions in teaching and learning science*

I have read and understood the description of the above-named project. On this basis I agree to participate in the project, and I consent to publication of the results of the project with the understanding that anonymity will be preserved.

I understand also that I may at any time withdraw from the project, including withdrawal of any information I have provided.

I note that the project has been reviewed **and approved** by the University of Canterbury College of Education Ethical Clearance Committee, and that any complaints about the project may be directed to Dr. Missy Morton, Chair of the Ethical Clearance Committee, as outlined in the footer below.

NAME (please print): .....

Signature:

Date:



## APPENDIX B: LETTER OF PERMISSION (PRINCIPAL)



University of Canterbury  
College of Education  
Dovedale Avenue  
Christchurch  
8140

[Date]

Dear [name]

Your school is invited to participate in a research project on the role of teachers' emotions in teaching and learning science. The aim of this project is to learn more about the emotional practice of teaching, and to find out how the teacher and learners negotiate a community of shared values in the science classroom.

If you agree to participate, your school's involvement in this project will include participation in the study, as well as a preliminary study. Your school has the right to withdraw from the project at any time, including withdrawal of any information provided. The preliminary study will involve the principal researcher observing and videorecording four consecutive lessons for two Year 10 science teachers. During the preliminary study, the teachers will be asked to complete two entries in an emotion diary (*please find attached emotion diary*).

The study will involve the principal researcher observing and videorecording a complete unit of work over a 5 – 6 week period for the two science teachers. During the study, the science teachers will be asked to complete two entries per week in the emotion diary. Three to four weeks following the observation of the unit of work, the science teachers will each be invited to participate in four 1-hour interviews on the role of emotions in teaching and learning science. This might include one interview per week, over a three week period, at a time that suits the teacher best (*please find attached interview sheets*).

Due to the commitment this study involves on behalf of the teachers, the researcher is more than willing to assist the teachers in certain agreed upon day-to-day tasks, such as photocopying, in order to lighten their workload during the duration of the study. During

the study, the teachers will be asked for feedback on the conclusions drawn from the data. Furthermore, I will make the findings for the study available to the school on completion.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation. To ensure confidentiality and anonymity, all names and identifying details in any verbal, written or published reports will be code-named. Code-named videotapes and observation sheets will be removed at the end of an observation session and stored in a locked filing cabinet in the research office at the university. This data will only be accessible to the principal researcher. All recorded data will be destroyed after a 5 year period, the standard period of time to retain research data.

The project is being carried out as a requirement for the degree of Doctor of Philosophy in Education by Wesley Gray, under supervision of Dr. Lindsey Conner and Dr. Veronica O'Toole. Should you have any concerns or questions about the project, please do not hesitate to contact me at [telephone number], or my supervisors Dr. Lindsey Conner and Dr. Veronica O'Toole, on [telephone number], or [telephone number].

Sincerely

Wesley Gray

## APPENDIX B: LETTER OF PERMISSION (PARENT/ CAREGIVER)



University of Canterbury  
College of Education  
Dovedale Avenue  
Christchurch  
8140

[Date]

Dear Parent/ Caregiver

Your child is invited to participate in a research project investigating the role of a teacher's emotions in teaching and learning science. The aim of the project is to learn more about the emotional practice of teaching, and to find out how the teacher and learners negotiate a community of shared values in the science classroom.

Your child's involvement in this project will include participation in the usual lessons as planned for and taught by their science teacher. The preliminary study will encompass the researcher observing and videorecording 4 lessons in which your child participates. The subsequent study will involve the researcher observing and videorecording 20 to 25 consecutive lessons, spanning a duration of five to six weeks.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation. To ensure confidentiality and anonymity, all names and identifying details in any verbal, written or published reports will be code-named. Code-named videotapes and observation sheets will be removed at the end of an observation session and stored in a locked filing cabinet in the research office at the university. This data will only be accessible to the principal researcher. All recorded data will be destroyed after a 5 year period, the standard period of time to retain research data.

The project is being carried out as a requirement for the degree of Doctor of Philosophy in Education by Wesley Gray, under supervision of Dr. Lindsey Conner and Dr. Veronica O'Toole. Should you have any concerns or questions about the project, please do not hesitate to contact me at [telephone number], or my supervisors Dr. Lindsey Conner and Dr. Veronica O'Toole, on [telephone number], or [telephone number]. The findings from this study will gladly be made available to you upon request.

Sincerely

Wesley Gray

**APPENDIX B: CONSENT FORM (PARENT/ CAREGIVER)**



University of Canterbury  
College of Education  
Dovedale Avenue  
Christchurch  
8140

[Date]

**CONSENT FORM**

*Project on the role of a teacher's emotions in teaching and learning science*

I, the parent/ caregiver of .....,  
give permission for my child to participate in the above-named project. I have discussed  
the project with my child and am happy that she understands the nature of the project and  
that her involvement in the project includes classroom participation as per usual.

I understand that anything my child says during a lesson will be treated as confidential.  
No findings that could identify my child or her school will be published. I understand that  
participation in this project is voluntary and that I can withdraw my child or she can  
withdraw from the project at any time without repercussions. Statements made during  
classroom participation may also be withdrawn by alerting the researcher in this regard at  
the end of a lesson.

I note that the project has been reviewed **and approved** by the University of Canterbury  
College of Education Ethical Clearance Committee, and that any complaints about the  
project may be directed to Dr. Missy Morton, Chair of the Ethical Clearance Committee,  
as outlined in the footer below.

NAME (please print): .....

Signature:

Date:

## APPENDIX B: LETTER OF PERMISSION (STUDENTS)



University of Canterbury  
College of Education  
Dovedale Avenue  
Christchurch  
8140

[Date]

Dear Student

My name is Wesley, and I am from the University of Canterbury College of Education. I am researching the importance of emotion in the science classroom, the values that are at the core of these emotions and how learners are invited by the science community to share these values.

If you agree to participate in this project your involvement will include participation in the lessons as planned for and taught by your science teacher. The project will include a preliminary study of 4 lessons, and subsequent study of 20 to 25 lessons. During the project I will observe and video record the lessons.

You can be assured that your name will not be written down when recording your comments, and will not be used in reports or presentations on the project. Participation in the study is voluntary. You may choose to withdraw a statement made during classroom discussion by alerting the researcher in this regard at the end of a lesson. You may also choose not to be filmed.

If you are happy to take part you will need to sign the consent form and return it to your teacher. Your parents/caregivers will need to sign a form too. If you have any questions you can talk to your teacher or your parents/caregivers.

Sincerely

Wesley Gray

## APPENDIX B: CONSENT FORM (STUDENTS)



University of Canterbury  
College of Education  
Dovedale Avenue  
Christchurch  
8140

[Date]

### CONSENT FORM

*Project on the role of a teacher's emotions in teaching and learning science*

Wesley and my teacher have talked with me about the above-named project.

- I have read or heard the information and am happy to take part in this project.
- I understand that comments I make may be written down and used in presentations and reports and I may be video taped.
- I understand that my name will not be written down next to my comments and that my name will not be used in any presentations, reports or the video.
- I understand that participation in this project is voluntary, that I may withdraw statements made during the lesson, and that I may choose not to be filmed.

NAME (please print): .....

Signature:

Date:

## APPENDIX C

### SCIENCE TEACHING EMOTION DIARY<sup>54</sup>

**You can recognize an emotion when**

- **a bodily sensation happens (such as your heart beating faster), or**
- **you have thoughts coming into your mind that are hard to stop, or**
- **you find yourself acting or feeling like acting emotionally.**

**You can recognize a mood when**

- **you have a feeling of some kind that lasts for more than about an hour.**

*Please complete a diary page as soon as possible after any emotion or mood happens that is strong enough for you to notice.*

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<sup>54</sup> The emotion diary is adapted from Oatley and Duncan's (1992) emotion diary. To adapt the diary to the context of the science classroom and to provide a list of types of feelings and appraisals [Section 2.2.2] I drew upon Zembylas (2002) and Martin and White (2005), respectively.



# DIARY ENTRY

1. Was it an emotion ☐ or mood ☐ ? (Please check one.)
2. What name would you give the emotion or mood? .....
3. Would you call it a type of any of the following? (Check one or more or none.)

happiness	<input type="checkbox"/>	enthusiasm	<input type="checkbox"/>
affection	<input type="checkbox"/>	satisfaction	<input type="checkbox"/>
caring	<input type="checkbox"/>	anxious	<input type="checkbox"/>
sadness	<input type="checkbox"/>	surprised	<input type="checkbox"/>
disappointment	<input type="checkbox"/>	confident	<input type="checkbox"/>
disgust	<input type="checkbox"/>	pride	<input type="checkbox"/>
guilt	<input type="checkbox"/>	comfortable	<input type="checkbox"/>
boredom	<input type="checkbox"/>	desire	<input type="checkbox"/>
anger	<input type="checkbox"/>	fear	<input type="checkbox"/>
irritation	<input type="checkbox"/>	disillusion	<input type="checkbox"/>
frustration	<input type="checkbox"/>	despair	<input type="checkbox"/>
fascination	<input type="checkbox"/>	powerlessness	<input type="checkbox"/>

4. Was the feeling mixed, so that there was more than one emotion or mood at exactly the same time? (Check one.)

No ☐ Not sure ☐ Yes ☐

If yes, what emotions or moods were in the mixture?

..... and .....

5. Did the emotion or mood stay the same or did it change? For instance, did you start feeling angry and later feel sad, or feel happy and later anxious, or suchlike? (Check one.)

It was the same until it finished. ☐ It changed. ☐

If it changed: Please say from what ..... to what .....

6. Please say in your own words what you were doing, and what happened to start the emotion or mood.

.....

.....

.....

.....

.....

.....

.....

.....

**7. How sure are you of your choices in question 2? (Circle one below.)**

Not sure at all    0   1   2   3   4   5   6   7   8   9   10    Completely sure

**8. How strong was the feeling? (Circle one below.)**

Not really noticeable    0   1   2   3   4   5   6   7   8   9   10    As intense as I have ever felt

**9. Did you have any bodily sensations? (Check one or more or none.)**

tenseness (of body, jaw, fists) ☐                      feeling sweaty ☐

trembling ☐    feeling hot ☐

stomach (nausea, churning, butterflies) ☐                      feeling cold ☐

heart beating noticeably ☐

**10. Did thoughts come into your mind that were hard to stop, and made it hard to concentrate on anything else? (Check one or more or none.)**

Replaying an incident from the past. ☐

Thinking what I will do next. ☐

Thinking that this goes to a completely different direction from what I expected. ☐

Other (please specify):

**11. Did you act or feel like acting in some way? (Check one or more or none.)**

Did you generally act emotionally, such as talking a lot, or not at all? ☐

Did you make a facial expression, such as laughing, crying, frowning? ☐

Did you feel an urge to act or actually act emotionally towards someone, by

    moving closer ☐

    making an aggressive move ☐

    withdrawing ☐

    other (please specify):

**12. When did the emotion or mood start? Time ..... Date .....**

**13. Roughly how long did it last? ..... hours ..... minutes**

**14. What kind of thing caused the emotion or mood? (Check one or more.)**

A student (or students or somebody else in the classroom) said something, did something, or didn't do something. ☐

Something you did, or didn't do. ☐

You remembered a past experience. ☐

You imagined something that could happen. ☐

It seemed not to be caused by anything in particular. ☐

None of the above. ☐

**15. Did the emotion(s) or mood(s) make it harder or easier for you to do something you were going to do? (Check one.)**

Made things more difficult. ☐ Made no difference. ☐ Made things easier. ☐

**16. About how long after the emotion or mood are you filling in this page?**

..... hours ..... minutes

**Thank you**

## APPENDIX D

### FORMAT FOR META-EMOTION INTERVIEW<sup>55</sup>

#### PART I: Awareness of emotion

- I:** How do you feel about (name the emotion)?
- I:** What about your reactions to being (name the emotion)?  
What would you look like, what would I see if I saw you (name the emotion)?  
Could I tell you were (name the emotion)?
- I:** What would be going on inside?  
What would you be feeling about being (name the emotion)?  
What would you be thinking?

#### PART II: Awareness of own emotions in science teaching

- I:** What do these reactions have to do with your science teaching?  
What role do they play? When do you feel (name the emotion)? Can you provide an example?  
Does the way you feel about (name the emotion) have a history in your teaching career? Can you tell me a story about that?

#### PART III: Awareness of students' emotions and coaching students' emotions

- I:** Can you tell if your students feel (name the emotion)? How?  
Can you tell subtle signs?  
If you think of a student, what does he/ she do when they feel (name the emotion)?
- I:** What do you do when a student feels (name the emotion)?  
What do you think about the (name the emotion)?  
What are your reactions, thoughts, feelings? What might you do?
- I:** What do you think you are trying to teach your students about being (name the emotion)? How do you foster (name the emotion)?  
What would your goals be in this situation?  
What would you be trying to accomplish?

#### PART IV: Awareness of own emotions in science teaching

- I:** Are there things you do on a daily basis during your teaching of science to make sure that you feel (name the emotion)?
- I:** Are there things you do on a daily basis during your teaching of science to make sure that you don't feel (name the emotion)?
- I:** Have you ever changed your feelings, i.e. felt (name the emotion), to fit a situation? Can you provide an example?

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<sup>55</sup> Adapted from Gottman, Katz and Hooven (1997), Zembylas (2002) and Hochschild (1983).

## APPENDIX E

### FORMAT FOR SEMI-STRUCTURED INTERVIEW<sup>56</sup>

1. What was happening there?
2. What were you feeling? What sort of mood were you in?
3. What started the emotion?
4. Was the feeling mixed? If so, what emotions or moods were in the mixture?
5. Did the emotion or mood stay the same or did it change?
6. How strong was the feeling?
7. Did you have any bodily sensations?
8. How intense were these bodily sensations?
9. What were you thinking?
10. What did you feel about the emotion or mood? For example: “You may have thought that your thoughts or actions were inconsistent with your usual behaviour. Or you know you shouldn’t have felt the way you did.”
11. Did the way you think about or see yourself change as a result of this incident? For example: “Did it make you change or question the way you think about yourself? Did it make you wonder how you ought to think about yourself?”
12. Did this emotion remind you of an incident or emotion in the past? If so, can you describe the incident?
13. How long did the thoughts persist? Were the thoughts recurring?
14. What actions or urges were prompted by the emotion? How intense were these urges?
15. Did the emotion affect plans? How?
16. What effect do you think the emotional episode had on the students?
17. Did you understand this emotion? What did you not understand?

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<sup>56</sup> Adapted from Oatley and Duncan (1992) and O’Toole (2005).

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